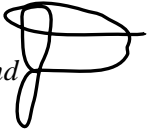


## MEMORANDUM

**TO:** Mr. Joseph Lynch  
MB Development  
7 Bristol Lane  
Foxborough, MA 02035

**FROM:** Mr. Jeffrey S. Dirk, P.E., PTOE, FITE and  
Ms. Lori A. Shattuck, EIT  
Vanasse & Associates, Inc.  
10 New England Business Center Drive  
Suite 314  
Andover, MA 01810-1066  
(978) 474-8800



**DATE:** August 7, 2014

**RE:** 6810

**SUBJECT:** Transportation Impact Assessment  
Proposed Wyman Village Residential Community  
Community Way  
Foxborough, Massachusetts

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Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of the Wyman Village residential community to be located off Community Way in Foxborough, Massachusetts (hereafter referred to as the "Project"). This study evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing traffic conditions and future traffic conditions, both with and without the Project, along Cocasset Street and Community Way, as well as at the intersection of the two roadways.

This study was prepared in consultation with the Massachusetts Department of Transportation (MassDOT) and the Town of Foxborough; was performed in general accordance with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*; and was conducted pursuant to the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports.

### **PROJECT DESCRIPTION**

The Project will entail the construction of a residential community consisting of 20 single-family homes to be located off Community Way in Foxborough, Massachusetts. The Project site consists of approximately four-acres of land and is bounded by residential properties and areas of open and wooded space to the north and west; residential properties and Community Way to the south; and residential properties, areas of open and wooded space and a Massachusetts Bay Transportation Authority (MBTA) railroad right-of-way to the east. Figure 1 depicts the Project site location in relation to the existing roadway network.

Access to the Project site will be provided by a new roadway that will intersect the north side of Community Way and will be aligned opposite the eastern connection between Community Way and Cocasset Street.





Figure 1

Site Location Map



## **EXISTING CONDITIONS**

A comprehensive field inventory of existing conditions within the study area was conducted in July 2014. The field investigation consisted of an inventory of existing roadway geometrics; pedestrian and bicycle facilities; public transportation services; traffic volumes; and operating characteristics; as well as posted speed limits and land use information within the study area. The study area for the Project was selected to contain the roadways providing access to the Project site (Cocasset Street and Community Way), as well as the intersection of these two roadways. It should be noted that Cocasset Street was recently paved at the time that the field inventories that form the basis of this assessment were completed and pavement markings were not yet installed.

The following describes the study area roadways and intersection.

### **Roadway**

#### **Cocasset Street**

- Two-lane, urban minor arterial roadway under local jurisdiction
- Traverses study area in a general northwest-southeast direction
- Provides two 12 to 13-foot wide travel lanes separated by a double-yellow centerline
- Provides 2-foot wide marked shoulders along both sides
- A sidewalk is provided along the north side within the study area
- Illumination is provided by way of street lights mounted on wood poles
- Posted speed limit is 35 miles per hour (mph) within the study area (20 mph within the school zone located just west of the Cocasset Street/Community Way intersection during school hours)
- Land use consists of residential properties and areas of open and wooded space

#### **Community Way**

- Two-lane, dead-end roadway under local jurisdiction
- Traverses study area in a general east-west direction
- Consists of a 22-foot wide paved roadway with no marked centerline or shoulders provided
- A sidewalk is not provided along the roadway
- Illumination is provided by way of street lights mounted on wood poles near Cocasset Street
- Land use consists of the Project site, residential properties and areas of open and wooded space

### **Intersection**

#### **Cocasset Street at Community Way**

- Community Way forms two (2) separate three-legged, unsignalized intersections with the Community Way under assumed stop control (STOP-signs are not currently provided)
- The Cocasset Street northwest and southeastbound approaches provide one 12 to 13-foot wide general-purpose travel lane with 2-foot wide marked shoulders

- The directions of travel along Cocasset Street are separated by a double-yellow centerline
- Community Way is a 22-foot wide roadway that accommodates two-way travel with no marked centerline or shoulders provided that intersects Cocasset Street at two (2) separate locations separated by a large triangular shaped island. Both Community Way approaches are under assumer stop control; however, STOP-signs are not currently provided.
- Sidewalks are provided along the north side of Cocasset Street with crosswalks provided across Community Way
- A “School Zone Ahead” sign is located on the Cocasset Street northwestbound approach in the vicinity of the intersection
- Land use in the vicinity of the intersection consists of the Project site, residential properties, and areas of open and wooded space

### **Existing Traffic Volumes**

In order to determine existing traffic-volume demands and flow patterns within the study area, automatic traffic recorder (ATR) counts, manual turning movement counts (TMCs) and vehicle classification counts were completed in July 2014. The ATR counts were conducted on Cocasset Street in the vicinity of the Project site in order to record weekday daily traffic conditions over an extended period, with weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period manual TMCs performed at the study intersection. These time periods were selected for analysis purposes as they are representative of the peak traffic volume hours for both the Project and the adjacent roadway network.

### **Seasonal Adjustment**

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, MassDOT weekday seasonal factors for Group 6 roadways (urban arterials, collectors and rural arterials, the MassDOT functional classification for Main Street) were reviewed.<sup>1</sup> Based on a review of this data, it was determined that traffic volumes for the month of July are approximately 8.7 percent above average-month conditions; however, public schools were not in session at the time that the traffic counts were performed (July). Given the proximity of the Mabelle M. Burrell Elementary School to the Project site (located off Cocasset Street approximately ¼-mile west of the Project site), traffic volumes associated with the school were estimated using trip-generation statistics published by the Institute of Transportation Engineers (ITE)<sup>2</sup> and assigned onto the study area roadway network based on existing traffic patterns in order to provide an appropriate analysis condition reflective of conditions when public schools are in session. The 2014 Existing weekday morning and evening peak-hour traffic volumes are summarized in Table 1 and graphically depicted on Figure 2.

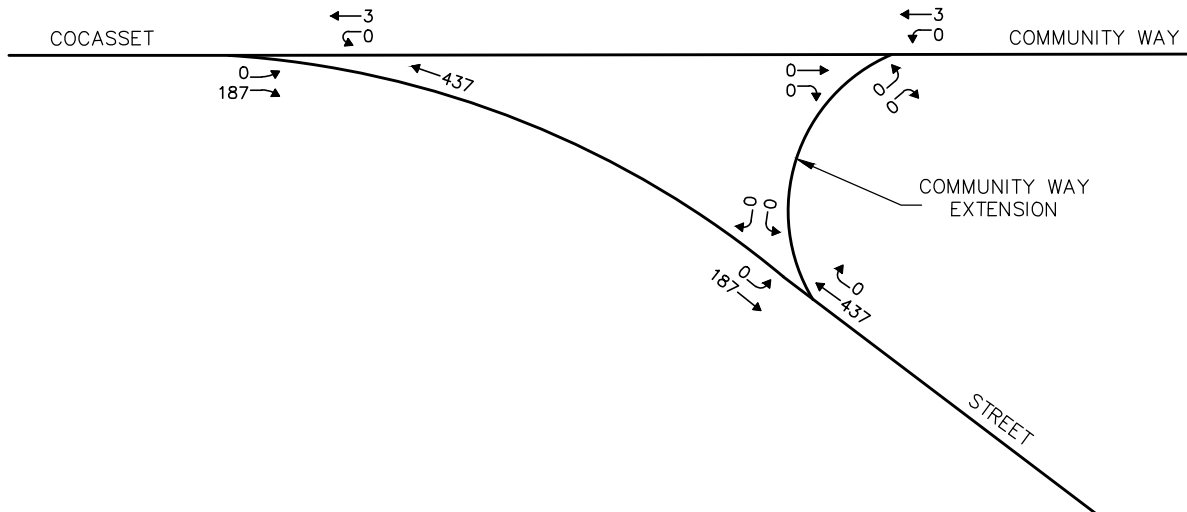
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<sup>1</sup>MassDOT Traffic Volumes for the Commonwealth of Massachusetts; 2011 Weekday Seasonal Factors, Group 6 – Urban Arterials, Collectors and Rural Arterials.

<sup>2</sup>*Trip Generation*, 9<sup>th</sup> Edition; Institute of Transportation Engineers; Washington, DC; 2012.

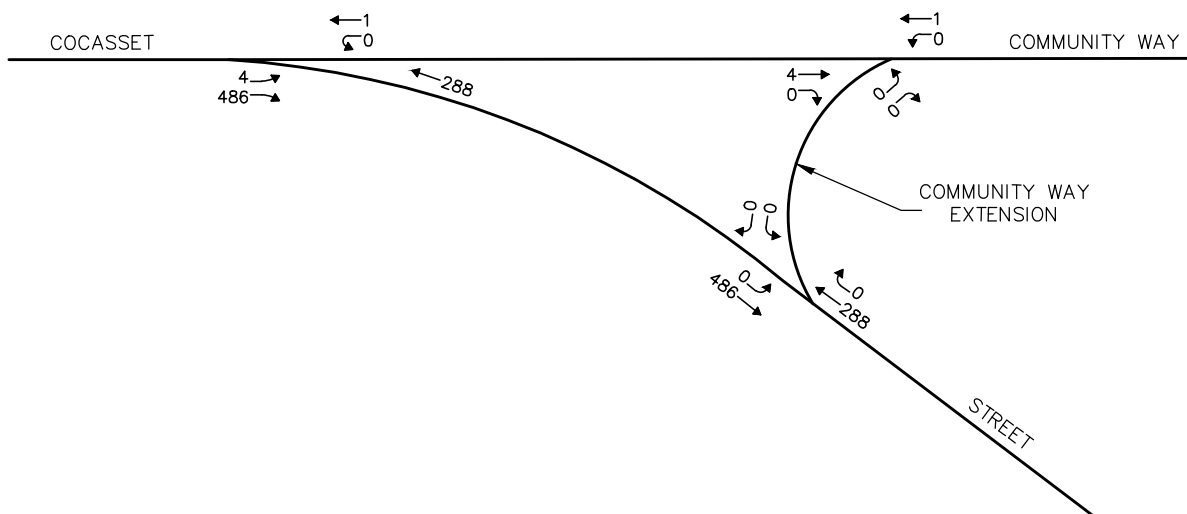
**WEEKDAY MORNING PEAK HOUR**

**SITE**



**WEEKDAY EVENING PEAK HOUR**

**SITE**



**Not To Scale**

**Vai** **Vanasse & Associates, Inc.**  
Transportation Engineers & Planners

**Figure 2**

**2014 Existing  
Peak Hour Traffic Volumes**

**Table 1**  
**2014 EXISTING TRAFFIC VOLUMES**

Location	AWT <sup>a</sup>	Weekday Morning Peak-Hour (7:30 – 8:30 AM)			Weekday Evening Peak-Hour (4:45 – 5:45 PM)		
		VPH <sup>b</sup>	K Factor <sup>c</sup>	Directional Distribution	VPH	K Factor	Directional Distribution
Cocasset Street, east of Community Way	8,515	624	7.3	70.0% WB	774	9.1	62.8% EB

<sup>a</sup>Average weekday traffic in vehicles per day.

<sup>b</sup>Vehicles per hour.

<sup>c</sup>Percent of daily traffic occurring during the peak-hour.

EB = eastbound; WB = westbound.

As can be seen in Table 1, Cocasset Street in the vicinity of the Project site was found to accommodate approximately 8,515 vehicles on an average weekday (two-way, 24-hour volume), with approximately 624 vehicles per hour (vph) during the weekday morning peak-hour (7:30 to 8:30 AM) and 774 vph during the weekday evening peak-hour (4:45 to 5:45 PM).

### **Pedestrian and Bicycle Facilities**

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in July 2014. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study intersection, as well as the location of existing and planned future bicycle facilities. Sidewalks are provided along the north side of Cocasset Street within the study area, with crosswalks provided across Community Way.

Formal bicycle facilities were not identified within the study area; however, Cocasset Street provides sufficient width (combined travel lane and shoulder) to support bicycle travel in a shared travelled-way configuration.<sup>3</sup>

### **Public Transportation**

Public transportation services are provided to the Town of Foxborough by the Massachusetts Bay Transportation Authority (MBTA) and the Greater Attleborough-Taunton Regional Transit Authority (GATRA); however, these services are currently not available within the immediate study area.

### **Spot Speed Measurements**

Vehicle travel speed measurements were performed on Cocasset Street in the vicinity of the Project site over a continuous 48-hour period in conjunction with the ATR counts. Table 2 summarizes the vehicle travel speed measurements.

<sup>3</sup> A minimum combined travel lane and paved shoulder width of 14-feet is required to support bicycle travel in a shared travelled-way condition.

**Table 2**  
**VEHICLE TRAVEL SPEED MEASUREMENTS**

	Cocasset Street	
	Eastbound	Westbound
Mean Travel Speed (mph)	38	38
85 <sup>th</sup> Percentile Speed (mph)	41	42
Posted Speed Limit (mph)	35	35

mph = miles per hour.

As can be seen in Table 2, the mean (average) vehicle travel speed along Cocasset Street in the vicinity of the Project site was found to be approximately 38 mph. The average measured 85<sup>th</sup> percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be approximately 41 mph, which is approximately 6 mph above the posted speed limit (35 mph). The 85<sup>th</sup> percentile speed is used as the basis of engineering design and in the evaluation of sight distances, and is often used in establishing posted speed limits.

### **Motor Vehicle Crash Data**

Motor vehicle crash information for the study area intersection was provided by the MassDOT Highway Division Safety Management/Traffic Operations Unit for the most recent five-year period available (2008 through 2012, inclusive) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, severity, and day of occurrence, and presented in Table 3.

**Table 3**  
**MOTOR VEHICLE CRASH DATA SUMMARY<sup>a</sup>**

	Cocasset Street/ Community Way
Traffic Control Type <sup>b</sup>	U
<i>Year:</i>	
2008	1
2009	0
2010	0
2011	0
<u>2012</u>	<u>0</u>
Total	1
Average	0.20
Calculated Rate <sup>c</sup>	0.06
MassDOT Crash Rate <sup>d</sup>	0.60/0.58
Significant? <sup>e</sup>	No
<i>Type:</i>	
Angle	0
Rear-End	1
Head-On	0
Sideswipe	0
Fixed Object	0
Pedestrian/Bicycle	0
<u>Unknown/Other</u>	<u>0</u>
Total	1
<i>Day of Week:</i>	
Monday through Friday	1
Saturday	0
<u>Sunday</u>	<u>0</u>
Total	1
<i>Severity:</i>	
Property Damage Only	1
Personal Injury	0
<u>Fatality</u>	<u>0</u>
Total	1

<sup>a</sup>Source: MassDOT Safety Management/Traffic Operations Unit records, 2008 through 2012.

<sup>b</sup>Traffic Control Type: U = unsignalized.

<sup>c</sup>Crash rate per million vehicles entering the intersection.

<sup>d</sup>Statewide/District crash rate.

<sup>e</sup>The intersection crash rate is significant if it is found to exceed MassDOT statewide or District (District 5) crash rate.

As can be seen in Table 3, one (1) motor vehicle crash was reported at the Cocasset Street/Community Way intersection over the five-year review period. The crash was reported as a rear-end-type collision and resulted in property damage only. The Cocasset Street/Community Way intersection was found to have a motor vehicle crash rate below both the MassDOT statewide and Highway Division District 5 (the Highway Division District in which the intersection is located) average crash rate for an unsignalized



intersection. No fatal motor vehicle crashes were reported within the study area over the five-year review period. The detailed MassDOT Crash Rate Worksheet is provided in the Appendix.

***Based on a review of the MassDOT motor vehicle crash data, no discernible safety deficiencies were apparent at the study intersection.***

## **FUTURE CONDITIONS**

Traffic volumes in the study area were projected to the year 2021, which reflects a seven-year planning horizon consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. Independent of the Project, traffic volumes on the roadway network in the year 2021 under No-Build conditions include all existing traffic and new traffic resulting from background traffic growth. Anticipated Project-generated traffic volumes superimposed upon the 2021 No-Build traffic volumes reflect 2021 Build traffic volume conditions with the Project.

### **Background Traffic Growth**

Future traffic growth is a function of the expected land development in the immediate area and the surrounding region. Several methods can be used to estimate this growth. A procedure frequently employed estimates an annual percentage increase in traffic growth and applies that percentage to all traffic volumes under study. The drawback to such a procedure is that some turning volumes may actually grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This procedure produces a more realistic estimate of growth for local traffic. However, the drawback of this procedure is that the potential growth in population and development external to the study area would not be accounted for in the traffic projections.

To provide a conservative analysis framework, both procedures were used, the salient components of which are described below.

### **Specific Development by Others**

The Planning Departments of the Towns of Foxborough, Mansfield and Sharon were contacted in order to determine if there were any projects planned within the study area that would have an impact on future traffic volumes at the study intersection. Based on these discussions, the following projects were identified for inclusion in this assessment:

- ***River Ridge Residential Development, Cocasset Street, Foxborough, Massachusetts.*** This project will entail the construction of a 40-lot residential community to be located off Cocasset Street and west of the Project site in Foxborough, Massachusetts. Traffic volumes expected to be generated by this project were estimated using trip-generation statistics published by the ITE<sup>4</sup> for a similar land use as that proposed and assigned onto the study area roadway network based on existing traffic patterns.

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<sup>4</sup>Ibid 2.

- ***Redevelopment of the “Chocolate Factory”, 150 Oak Street, Mansfield, Massachusetts.*** This project will entail the redevelopment of the “Chocolate Factory” located at 150 Oak Street in Mansfield, Massachusetts, to include approximately 130 residential apartment units. Traffic volumes associated with this project are not expected to result in an increase in traffic within the study area that would exceed the background traffic growth rate (discussion follows).
- ***Sharon Commons Mixed-Use Development, South Main Street, Sharon, Massachusetts.*** This project will entail the construction of approximately 192 residential apartment units and 450,000 square feet (sf) of retail space to be located off South Main Street in Sharon, Massachusetts. Traffic volumes associated with this project are not expected to result in an increase in traffic within the study area that would exceed the background traffic growth rate.

No other developments were identified at this time that are expected to result in an increase in traffic within the study area beyond the general background traffic growth rate.

### **General Background Traffic Growth**

Traffic-volume data compiled by MassDOT from permanent count stations and historic traffic counts in the area were reviewed in order to determine general background traffic growth trends. Based on a review of this data, it was determined that traffic volumes within the study area have generally decreased by approximately 1.4 percent over the past several years. In order to provide a conservative (high) analysis scenario and a prudent planning condition for the Project, a 1.0 percent per year compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

### **Roadway Improvement Projects**

MassDOT and the Town of Foxborough were contacted in order to determine if there were any planned roadway improvement projects expected to be completed within the study area. Based on these discussions, no roadway improvement projects outside of routine maintenance activities were identified to be planned within the study area at this time that are expected to result in a material impact on traffic volumes or operating conditions within the study area that is the subject of this assessment. As mentioned previously, Cocasset Street was repaved in July 2014 and pavement markings were in the process of being installed at the time that the field inventory that forms the basis of this assessment was completed.

### **No-Build Traffic Volumes**

The 2021 No-Build condition peak-hour traffic-volumes were developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2014 Existing peak-hour traffic volumes and then adding the peak hour traffic volumes associated with the identified specific development project by others. The resulting 2021 No-Build weekday morning and evening peak-hour traffic volumes are shown on Figure 3.

### **Project-Generated Traffic**

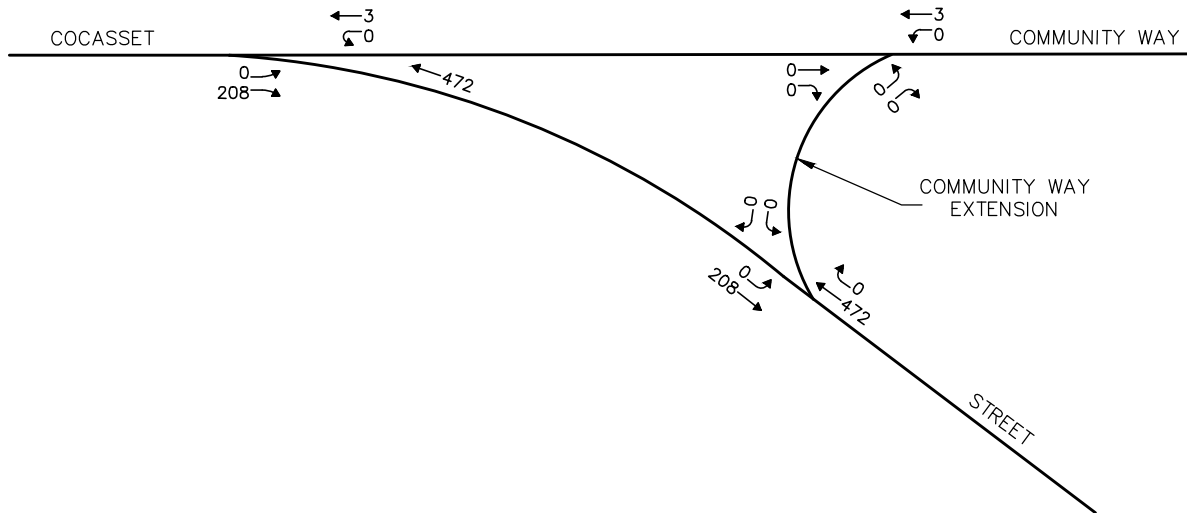
As proposed, the Project will entail the construction of a residential community consisting of 20 single-family homes. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the ITE<sup>5</sup> for a similar land use as that proposed were used. ITE Land Use Code

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<sup>5</sup>Ibid 2.

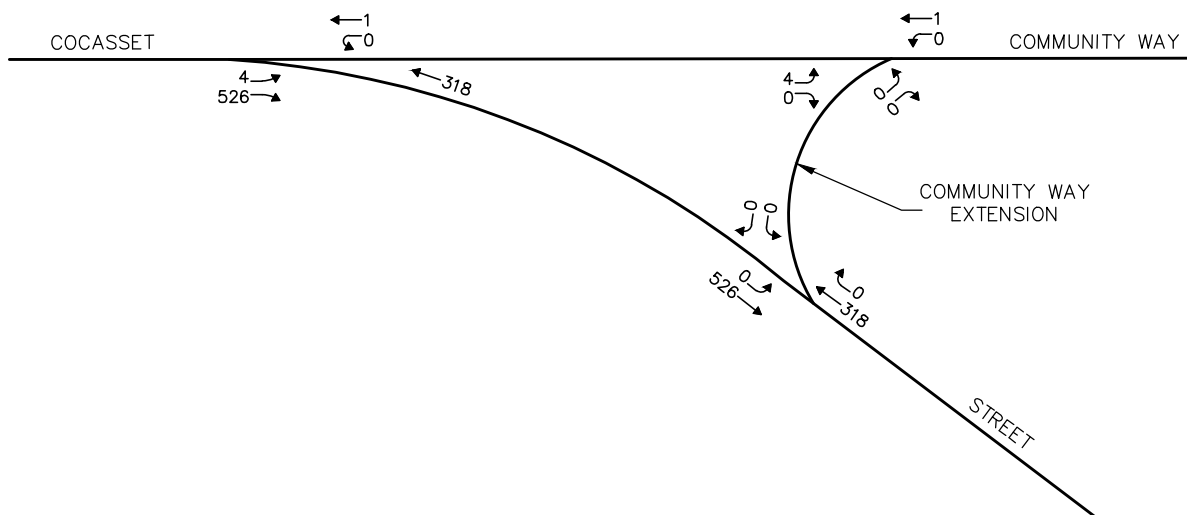
WEEKDAY MORNING PEAK HOUR

**SITE**



WEEKDAY EVENING PEAK HOUR

**SITE**



Not To Scale

**Vai** Vanasse & Associates, Inc.  
Transportation Engineers & Planners

Figure 3

2021 No-Build  
Peak Hour Traffic Volumes

(LUC) 210, *Single-Family Detached Housing*, with the independent variable of number of dwelling units equal to 20, was used to develop the traffic characteristics of the Project. Table 4 summarizes the anticipated traffic characteristics of the Project.

**Table 4**  
**TRIP GENERATION SUMMARY**

Time Period/Direction	Vehicle Trips
	Wyman Village Residential Community (20 units) <sup>a</sup>
<i>Average Weekday Daily:</i>	
Entering	120
<u>Exiting</u>	<u>120</u>
Total	240
<i>Weekday Morning Peak Hour:</i>	
Entering	6
<u>Exiting</u>	<u>18</u>
Total	24
<i>Weekday Evening Peak Hour:</i>	
Entering	16
<u>Exiting</u>	<u>9</u>
Total	25

<sup>a</sup>Based on ITE LUC 210, *Single-Family Detached Housing*.

As can be seen in Table 4, the Project is expected to generate approximately 240 vehicle trips (two-way, 24-hour volume, or 120 vehicles entering and 120 exiting), with approximately 24 vehicle trips (6 vehicles entering and 18 exiting) expected during the weekday morning peak-hour and 25 vehicle trips (16 vehicles entering and 9 exiting) expected during the weekday evening peak-hour.

***Such traffic volume increases (approximately one (1) additional vehicle every 2.5 minutes during the peak hours) would not result in a significant impact (increase) on motorist delays or vehicle queuing over existing or anticipated future conditions without the Project.***

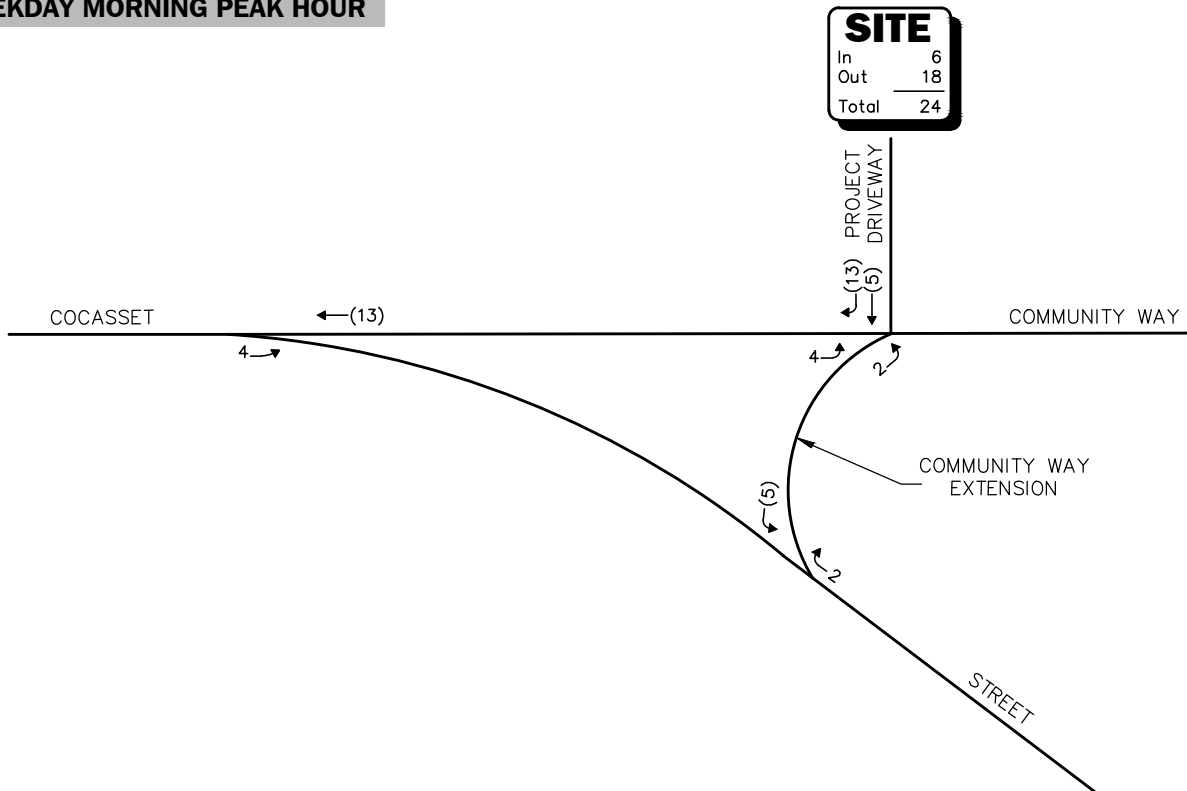
### **Trip Distribution and Assignment**

The directional distribution of generated trips to and from the Project site was determined based on a review of existing traffic patterns within the study area during the commuter peak periods. The general trip distribution for the Project is graphically depicted on Figure 4. The additional traffic expected to be generated by the Project was assigned on the study area roadway network as shown on Figure 5.

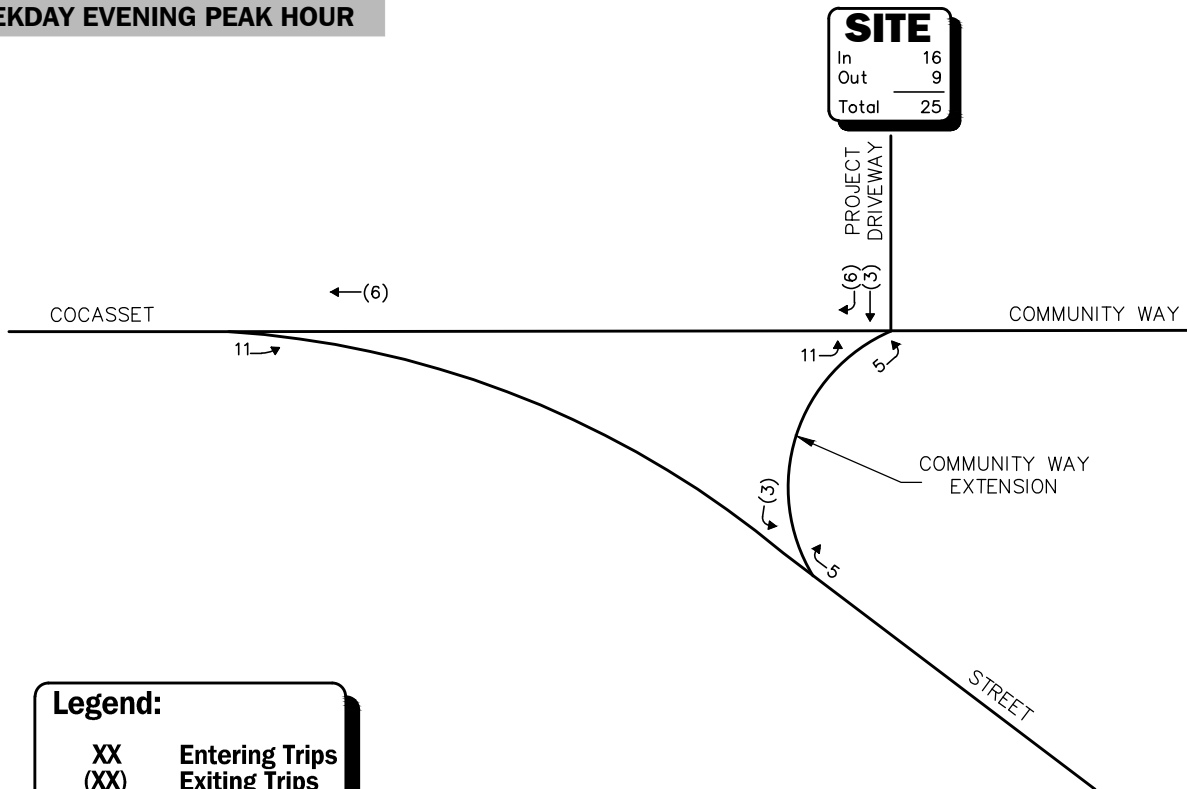




**WEEKDAY MORNING PEAK HOUR**



**WEEKDAY EVENING PEAK HOUR**



**Legend:**

XX Entering Trips  
(XX) Exiting Trips



Not To Scale

**Figure 5**

## **Build Traffic Volumes**

The 2021 Build condition traffic volumes consist of the 2021 No-Build traffic volumes with the additional traffic expected to be generated by the Project added to them. The 2021 Build weekday morning and evening peak-hour traffic-volumes are graphically depicted on Figure 6.

A summary of peak-hour projected traffic-volume increases external to the study area that is the subject of this assessment is shown in Table 5. These volumes are based on the expected increases from the Project.

**Table 5**  
**PEAK-HOUR TRAFFIC-VOLUME INCREASES**

Location/Peak Hour	2014 Existing	2021 No-Build	2021 Build	Traffic Volume Increase Over No-Build	Percent Increase Over No-Build
<i>Cocasset Street, east of Community Way</i>					
Weekday Morning	624	680	687	7	1.0
Weekday Evening	774	844	852	8	0.9
<i>Cocasset Street, west of Community Way</i>					
Weekday Morning	627	683	700	17	2.5
Weekday Evening	779	849	866	17	2.0

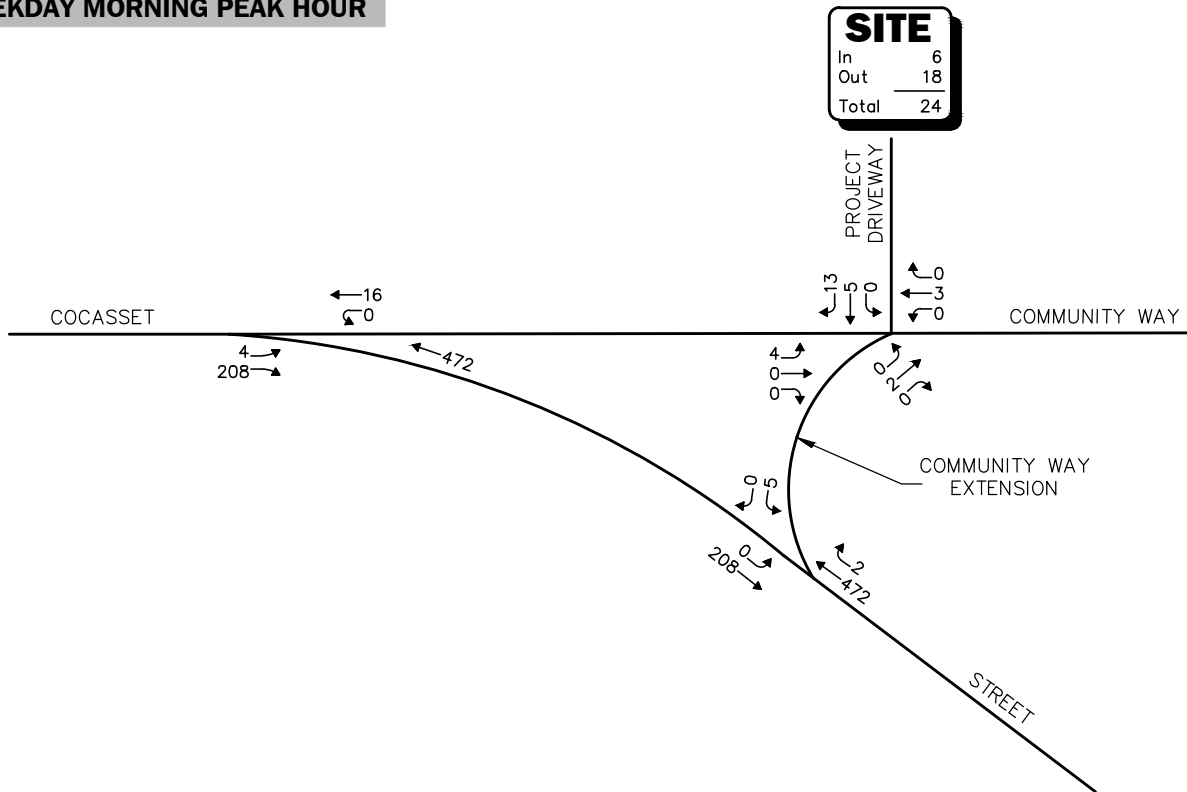
As shown in Table 5, Project-related traffic-volume increases external to the study area relative to 2021 No-Build conditions are anticipated to range from 0.9 to 2.5 percent during the peak periods, with vehicle increases shown to range from 7 to 17 vehicles. *Such increases are considered nominal when distributed over the course of an hour and would not be readily apparent outside of the immediate study area that is the subject of this assessment.*

## **TRAFFIC OPERATIONS ANALYSIS**

In order to assess the potential impact of the Project on the roadway network, traffic operations analyses (level-of-service, motorist delay and vehicle queuing) were performed for the study intersections under 2014 Existing, 2021 No-Build, and 2021 Build conditions.

In brief, six levels of service are defined for each type of facility and are correlated to motorist delay. They are given letter designations ranging from A to F, with level-of-service (LOS) A representing the best operating conditions and LOS F representing congested or constrained operations. Since the level-of-service of a traffic facility is a function of the flows placed upon it, such a facility may operate at a wide range of levels of service depending on the time of day, day of week, or period of the year. The *Synchro* intersection capacity analysis software, which is based on the analysis methodologies and

WEEKDAY MORNING PEAK HOUR



WEEKDAY EVENING PEAK HOUR

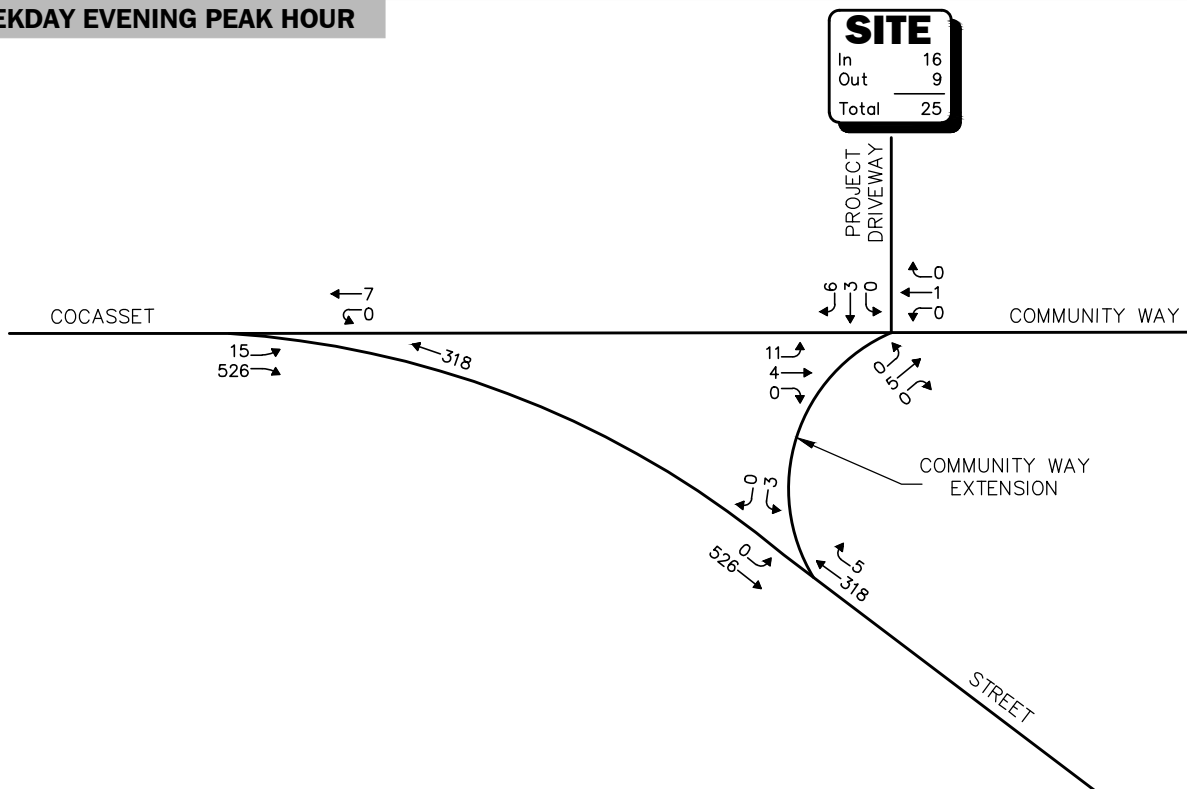


Figure 6

2021 Build  
Peak Hour Traffic Volumes



procedures presented in the 2010 *Highway Capacity Manual* (HCM)<sup>6</sup> for unsignalized intersections, was used to complete the level-of-service analyses.

Vehicle queue analyses are a direct measurement of an intersection's ability to process vehicles under various traffic control and volume scenarios and lane use arrangements. The vehicle queue analysis was performed using the *Synchro* intersection capacity analysis software which is based upon the methodology and procedures presented in the 2010 *Highway Capacity Manual*. The *Synchro* vehicle queue analysis methodology is a simulation based model which reports the number of vehicles that experience a delay of six seconds or more at an intersection. For unsignalized intersections, *Synchro* reports the 95<sup>th</sup> percentile vehicle queue. Vehicle queue lengths are a function of the capacity of the movement under study and the volume of traffic being processed by the intersection during the analysis period. The 95<sup>th</sup> percentile vehicle queue is the vehicle queue length that will be exceeded only 5 percent of the time, or approximately three minutes out of sixty minutes during the peak one hour of the day (during the remaining fifty-seven minutes, the vehicle queue length will be less than the 95th percentile queue length).

### **Analysis Results**

Level-of-service and vehicle queue analyses were conducted for 2014 Existing, 2021 No-Build and 2021 Build conditions for the intersections within the study area. The results of the intersection capacity and vehicle queue analyses are summarized in Table 6, with the detailed analysis results presented in the Appendix.

#### **Community Way at Cocasset Street**

All movements exiting the Community Way approaches to Cocasset Street were shown to operate at LOS "B" or better during the peak hours under 2014 Existing and 2021 No-Build conditions. Under 2021 Build conditions, with the addition of Project-related traffic, motorists exiting the Community Way east connection to Cocasset Street were shown to operate at a LOS "C" during the peak hours with no residual vehicle queuing reported, indicating continued acceptable operating conditions at the intersections. All movements along Cocasset Street were shown to operate at LOS "A" under all analysis conditions with negligible vehicle queuing reported.

#### **Community Way at the Project Site Roadway**

All movements at the Project site roadway intersection with Community Way were shown to operate at LOS "A" under all analysis conditions with negligible vehicle queuing reported.

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<sup>6</sup>*Highway Capacity Manual*, Transportation Research Board; Washington, DC; 2010.

**Table 6**  
**UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY**

Unsignalized Intersection/Peak Hour/Movement	2014 Existing				2021 No-Build				2021 Build			
	Demand <sup>a</sup>	Delay <sup>b</sup>	LOS <sup>c</sup>	Queue <sup>d</sup> 95 <sup>th</sup>	Demand	Delay	LOS	Queue 95 <sup>th</sup>	Demand	Delay	LOS	Queue 95 <sup>th</sup>
<b><i>Cocasset Street at Community Way</i></b>												
<i>Weekday Morning:</i>												
Cocasset Street EB LT/TH	187	0.0	A	0	208	0.0	A	0	212	0.2	A	0
Cocasset Street WB TH/RT	437	0.0	A	0	472	0.0	A	0	472	0.0	A	0
Community Way SWB LT/RT	3	11.2	B	0	3	11.6	B	0	16	11.8	B	0
<i>Weekday Evening:</i>												
Cocasset Street EB LT/TH	490	0.1	A	0	530	0.1	A	0	541	0.2	A	0
Cocasset Street WB TH/RT	288	0.0	A	0	318	0.0	A	0	318	0.0	A	0
Community Way SWB LT/RT	1	9.9	A	0	1	10.1	B	0	7	10.3	B	0
<b><i>Cocasset Street at Community Way Extension</i></b>												
<i>Weekday Morning:</i>												
Cocasset Street EB LT/TH	187	0.0	A	0	208	0.0	A	0	208	0.0	A	0
Cocasset Street WB TH/RT	437	0.0	A	0	472	0.0	A	0	474	0.0	A	0
Community Way Extension SB LT/RT	0	0.0	A	0	0	0.0	A	0	5	15.0	C	0
<i>Weekday Evening:</i>												
Cocasset Street EB LT/TH	486	0.0	A	0	526	0.0	A	0	526	0.0	A	0
Cocasset Street WB TH/RT	288	0.0	A	0	318	0.0	A	0	323	0.0	A	0
Community Way Extension SB LT/RT	0	0.0	A	0	0	0.0	A	0	3	18.9	C	0
<b><i>Community Way at Community Way Extension and the Project Site Roadway</i></b>												
<i>Weekday Morning:</i>												
Community Way EB LT/TH/RT	0	0.0	A	0	0	0.0	A	0	4	7.2	A	0
Community Way WB LT/TH/RT	3	0.0	A	0	3	0.0	A	0	3	0.0	A	0
Community Way Extension NB LT/TH/RT	0	0.0	A	0	0	0.0	A	0	2	0.0	A	0
Project Site Roadway SB LT/TH/RT	--	--	--	--	--	--	--	--	18	8.4	A	0
<i>Weekday Evening:</i>												
Community Way EB LT/TH/RT	4	0.0	A	0	4	0.0	A	0	15	5.3	A	0
Community Way WB LT/TH/RT	1	0.0	A	0	1	0.0	A	0	1	0.0	A	0
Community Way Extension NB LT/TH/RT	0	0.0	A	0	0	0.0	A	0	5	9.2	A	0
Project Site Roadway SB LT/TH/RT	--	--	--	--	--	--	--	--	9	8.6	A	0

<sup>a</sup>Demand in vehicles per hour.

<sup>b</sup>Average control delay per vehicle (in seconds).

<sup>c</sup>Level-of-Service.

<sup>d</sup>Queue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; SWB = southwestbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

## **SIGHT DISTANCE EVALUATION**

Sight distance measurements were performed at the intersection of Community Way at the Project site roadway in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO)<sup>7</sup> requirements. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an on-coming vehicle and safely complete a turning or crossing maneuver with on-coming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 7 presents the measured SSD and ISD at the subject intersection.

**Table 7**  
**SIGHT DISTANCE MEASUREMENTS<sup>a</sup>**

Intersection/Sight Distance Measurement	Feet		
	Required Minimum	ISD <sup>b</sup>	Measured
<b><i>Community Way at the Project Site Roadway</i></b>			
<i>Stopping Sight Distance:</i>			
Community Way approaching from the east	200	--	255
Community Way/Cocasset Street approaching from the west	200	--	435
<i>Intersection Sight Distance:</i>			
Looking to the east from the Project Site Roadway	200	290/335	220 <sup>c</sup>
Looking to the west from the Project Site Roadway	200	290/335	270 <sup>c</sup>

<sup>a</sup>Recommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, 6<sup>th</sup> Edition; American Association of State Highway and Transportation Officials (AASHTO); 2011; and based on a 30 mph approach speed on Community Way.

<sup>b</sup>Values shown are the intersection sight distance for a vehicle turning right/left exiting a roadway under STOP control such that motorists approaching the intersection on the major street should not need to adjust their travel speed to less than 70 percent of their initial approach speed.

<sup>c</sup>With the trimming and/or removal of trees and vegetation located along the north side of Community Way.

As can be seen in Table 7, the available lines of sight at the subject intersection were found to exceed or could be made to exceed the recommended minimum sight distance requirements to function in a safe manner based on a 30 mph approach speed along Community Way, a reasonable approach speed given that Community Way ends approximately 650 feet east of the Project site roadway.

<sup>7</sup>*A Policy on Geometric Design of Highways and Streets*, 6<sup>th</sup> Edition; American Association of State Highway and Transportation Officials (AASHTO); 2011.



## **CONCLUSIONS**

VAI has completed a detailed assessment of the potential impacts on the transportation infrastructure associated with the proposed construction of the Wyman Village residential community to be located off Community Way in Foxborough, Massachusetts. The following specific areas have been evaluated as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; under existing and future conditions, both with and without the Project. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the ITE<sup>8</sup> for a similar land use as that proposed, the Project is expected to generate approximately 240 vehicle trips on an average weekday (two-way, 24-hour volume), with approximately 24 vehicle trips expected during the weekday morning peak-hour and 25 vehicle trips expected during the weekday evening peak-hour;
2. The Project will not have a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions). Under all analysis conditions, all movements at the study intersections were shown to operate at LOS "C" or better with negligible vehicle queuing;
3. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study intersection, which was found to have a motor vehicle crash rate below both the MassDOT statewide and District 5 average crash rate for an unsignalized intersection; and
4. Lines of sight at the Project site roadway intersection with Community Way were found to exceed or could be made to exceed the requirements to function in a safe manner based on a 30 mph approach speed along Community Way.

Based on the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

## **RECOMMENDATIONS**

A detailed transportation improvement program has been developed that is designed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

### **Project Access**

Access to the Project site will be provided by a new roadway that will intersect the north side of Community Way and will be aligned opposite the eastern connection between Community Way and Cocasset Street. The following recommendations are offered with respect to the design and operation of the Project site roadway:

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<sup>8</sup>Ibid 2.



- The Project site roadway should be a minimum of 22-feet in width and accommodate two-way travel, with vehicles exiting the Project site at Community Way placed under STOP-sign control with a marked STOP-line provided.
- Vehicles approaching Community Way on the east extension between Cocasset Street and Community Way (opposite the Project site roadway) should be placed under STOP-sign control with a marked STOP-line provided.
- All signs and pavement markings to be installed within the Project site shall conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).<sup>9</sup>
- Signs or landscaping along the Project site roadway internal to the Project site and at its intersection with Community Way should be designed and maintained so as not to restrict lines of sight.
- Existing vegetation located along the north side of Community Way in the vicinity of the Project site roadway and within the public right-of-way or on the Project site should be selectively trimmed or removed and maintained in order to provide the recommended lines of sight to and from the Project site roadway.

### **Off-Site**

Independent of the Project, it is recommended that STOP-signs and marked STOP-lines be provided on the Community Way approaches to Cocasset Street (east and west branches).

With implementation of the above recommendations, safe and efficient access will be provided to the Project site and the Project can be constructed with minimal impact on the roadway system.

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<sup>9</sup>*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

## APPENDIX

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TRAFFIC COUNT DATA

SEASONAL ADJUSTMENT DATA

MABELLE M. BURRELL ELEMENTARY SCHOOL TRAFFIC PROJECTIONS

VEHICLE TRAVEL SPEED DATA

MASSDOT CRASH RATE WORKSHEET

GENERAL BACKGROUND TRAFFIC GROWTH

BACKGROUND DEVELOPMENT BY OTHERS

TRIP-GENERATION CALCULATIONS

CAPACITY ANALYSIS WORKSHEETS

## TRAFFIC COUNT DATA

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Automatic Traffic Recorder Counts  
Manual Turning Movement Counts

## Automatic Traffic Recorder Counts



Accurate Counts  
978-664-2565

Page 1

Location : Cocasset Street  
Location : at Community Way  
City/State: Foxborough, MA

Site Code: 68100001  
6810VOL1

Start Time	29-Jul-14 Tue	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		8	46			10	55				
12:15		2	49			13	54				
12:30		3	49			9	47				
12:45		2	46	15	190	10	66	42	222	57	412
01:00		2	55			6	52				
01:15		3	41			0	50				
01:30		1	53			1	41				
01:45		0	49	6	198	3	62	10	205	16	403
02:00		3	46			2	45				
02:15		0	44			1	56				
02:30		3	49			2	53				
02:45		2	64	8	203	1	72	6	226	14	429
03:00		1	53			0	95				
03:15		0	57			1	97				
03:30		2	71			1	98				
03:45		0	83	3	264	2	95	4	385	7	649
04:00		4	67			4	87				
04:15		7	70			2	113				
04:30		12	72			3	106				
04:45		14	69	37	278	2	101	11	407	48	685
05:00		18	74			3	108				
05:15		35	76			6	136				
05:30		36	65			5	130				
05:45		35	74	124	289	10	102	24	476	148	765
06:00		54	78			17	120				
06:15		75	62			25	111				
06:30		72	54			21	90				
06:45		75	60	276	254	36	87	99	408	375	662
07:00		76	42			34	86				
07:15		89	77			52	85				
07:30		113	54			45	66				
07:45		99	40	377	213	33	69	164	306	541	519
08:00		88	44			42	49				
08:15		106	34			47	47				
08:30		100	43			48	38				
08:45		92	24	386	145	43	59	180	193	566	338
09:00		74	26			45	49				
09:15		59	21			47	39				
09:30		52	19			42	38				
09:45		65	17	250	83	37	40	171	166	421	249
10:00		57	15			36	27				
10:15		51	20			36	21				
10:30		50	10			40	16				
10:45		45	6	203	51	37	23	149	87	352	138
11:00		45	14			31	19				
11:15		49	9			34	23				
11:30		35	4			49	26				
11:45		49	6	178	33	48	11	162	79	340	112
Total		1863	2201			1022	3160			2885	5361
Percent		45.8%	54.2%			24.4%	75.6%			35.0%	65.0%

Location : Cocasset Street  
Location : at Community Way  
City/State: Foxborough, MA

Site Code: 68100001  
6810VOL1

Start Time	30-Jul-14 Wed	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	51			13	64				
12:15		3	61			7	77				
12:30		4	67			9	59				
12:45		6	57	17	236	6	58	35	258	52	494
01:00		3	57			6	46				
01:15		4	51			3	49				
01:30		3	45			4	57				
01:45		4	56	14	209	2	64	15	216	29	425
02:00		0	49			4	59				
02:15		3	55			4	49				
02:30		2	60			1	63				
02:45		0	58	5	222	0	64	9	235	14	457
03:00		1	47			0	76				
03:15		0	55			3	86				
03:30		1	82			2	99				
03:45		3	87	5	271	0	90	5	351	10	622
04:00		2	74			0	128				
04:15		4	66			1	108				
04:30		16	78			3	94				
04:45		7	75	29	293	4	100	8	430	37	723
05:00		19	75			2	120				
05:15		37	73			3	112				
05:30		41	74			7	127				
05:45		38	74	135	296	6	91	18	450	153	746
06:00		47	50			14	110				
06:15		71	63			23	95				
06:30		79	53			30	99				
06:45		67	55	264	221	37	92	104	396	368	617
07:00		68	53			43	89				
07:15		72	52			46	69				
07:30		87	46			36	65				
07:45		101	44	328	195	37	82	162	305	490	500
08:00		99	39			48	58				
08:15		97	39			46	61				
08:30		97	36			49	41				
08:45		108	25	401	139	42	46	185	206	586	345
09:00		73	35			47	58				
09:15		50	21			46	40				
09:30		70	23			41	36				
09:45		69	17	262	96	41	41	175	175	437	271
10:00		59	27			31	30				
10:15		57	16			47	38				
10:30		47	17			44	34				
10:45		39	21	202	81	42	21	164	123	366	204
11:00		43	7			47	35				
11:15		42	8			38	23				
11:30		49	7			61	25				
11:45		61	7	195	29	52	22	198	105	393	134
Total		1857	2288			1078	3250			2935	5538
Percent		44.8%	55.2%			24.9%	75.1%			34.6%	65.4%
Grand Total		3720	4489			2100	6410			5820	10899
Percent		45.3%	54.7%			24.7%	75.3%			34.8%	65.2%
ADT		ADT 8,360		AADT 8,360							

Accurate Counts  
978-664-2565

Location : Cocasset Street  
Location : at Community Way  
City/State: Foxborough, MA

Site Code: 68100001  
6810VOL1

Start Time	28-Jul-14		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	15	42	17	35	*	*	*	*	*	*	*	*	16	38
01:00	*	*	6	10	14	15	*	*	*	*	*	*	*	*	10	12
02:00	*	*	8	6	5	9	*	*	*	*	*	*	*	*	6	8
03:00	*	*	3	4	5	5	*	*	*	*	*	*	*	*	4	4
04:00	*	*	37	11	29	8	*	*	*	*	*	*	*	*	33	10
05:00	*	*	124	24	135	18	*	*	*	*	*	*	*	*	130	21
06:00	*	*	276	99	264	104	*	*	*	*	*	*	*	*	270	102
07:00	*	*	377	164	328	162	*	*	*	*	*	*	*	*	352	163
08:00	*	*	386	180	401	185	*	*	*	*	*	*	*	*	394	182
09:00	*	*	250	171	262	175	*	*	*	*	*	*	*	*	256	173
10:00	*	*	203	149	202	164	*	*	*	*	*	*	*	*	202	156
11:00	*	*	178	162	195	198	*	*	*	*	*	*	*	*	186	180
12:00 PM	*	*	190	222	236	258	*	*	*	*	*	*	*	*	213	240
01:00	*	*	198	205	209	216	*	*	*	*	*	*	*	*	204	210
02:00	*	*	203	226	222	235	*	*	*	*	*	*	*	*	212	230
03:00	*	*	264	385	271	351	*	*	*	*	*	*	*	*	268	368
04:00	*	*	278	407	293	430	*	*	*	*	*	*	*	*	286	418
05:00	*	*	289	476	296	450	*	*	*	*	*	*	*	*	292	463
06:00	*	*	254	408	221	396	*	*	*	*	*	*	*	*	238	402
07:00	*	*	213	306	195	305	*	*	*	*	*	*	*	*	204	306
08:00	*	*	145	193	139	206	*	*	*	*	*	*	*	*	142	200
09:00	*	*	83	166	96	175	*	*	*	*	*	*	*	*	90	170
10:00	*	*	51	87	81	123	*	*	*	*	*	*	*	*	66	105
11:00	*	*	33	79	29	105	*	*	*	*	*	*	*	*	31	92
Lane	0	0	4064	4182	4145	4328	0	0	0	0	0	0	0	0	4105	4253
Day	0		8246		8473		0		0		0		0		8358	
AM Peak	-	-	08:00	08:00	08:00	11:00	-	-	-	-	-	-	-	-	08:00	08:00
Vol.	-	-	386	180	401	198	-	-	-	-	-	-	-	-	394	182
PM Peak	-	-	17:00	17:00	17:00	17:00	-	-	-	-	-	-	-	-	17:00	17:00
Vol.	-	-	289	476	296	450	-	-	-	-	-	-	-	-	292	463

8358  
1510 ← school  
8514

Comb. Total 0 8246 8473 0  
ADT ADT 8,360 AADT 8,360

## Manual Turning Movement Counts

# Accurate Counts

978-664-2565

N/S Street : Community Way  
 E/W Street : Cocasset Street  
 City/State : Foxborough, MA  
 Weather : Cloudy

File Name : 68100001  
 Site Code : 68100001  
 Start Date : 7/29/2014  
 Page No : 1

## Groups Printed- Cars - Trucks

Start Time	Community Way From North		Cocasset St From East		Cocasset St From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	0	2	78	0	0	38	118
07:15 AM	0	1	90	0	0	53	144
07:30 AM	0	1	115	0	0	43	159
07:45 AM	0	1	95	0	0	35	131
Total	0	5	378	0	0	169	552
08:00 AM	0	1	92	0	0	38	131
08:15 AM	0	0	108	0	0	49	157
08:30 AM	0	0	82	0	0	46	128
08:45 AM	0	1	103	0	0	43	147
Total	0	2	385	0	0	176	563
Grand Total	0	7	763	0	0	345	1115
Apprch %	0	100	100	0	0	100	
Total %	0	0.6	68.4	0	0	30.9	
Cars	0	7	754	0	0	339	1100
% Cars	0	100	98.8	0	0	98.3	98.7
Trucks	0	0	9	0	0	6	15
% Trucks	0	0	1.2	0	0	1.7	1.3

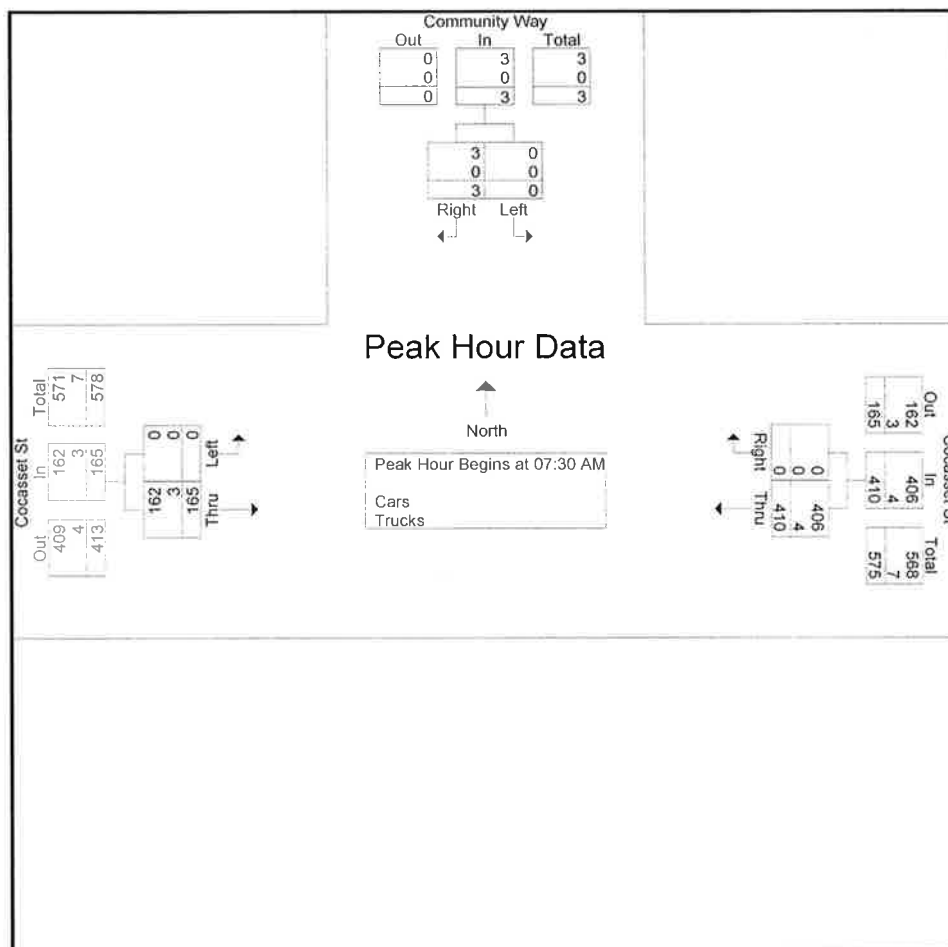
# Accurate Counts

978-664-2565

N/S Street : Community Way  
E/W Street : Cocasset Street  
City/State : Foxborough, MA  
Weather : Cloudy

File Name : 68100001  
Site Code : 68100001  
Start Date : 7/29/2014  
Page No : 2

	Community Way From North			Cocasset St From East			Cocasset St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	1	1	115	0	115	0	43	43	159
07:45 AM	0	1	1	95	0	95	0	35	35	131
08:00 AM	0	1	1	92	0	92	0	38	38	131
08:15 AM	0	0	0	108	0	108	0	49	49	157
Total Volume	0	3	3	410	0	410	0	165	165	578
% App. Total	0	100		100	0		0	100		
PHF	.000	.750	.750	.891	.000	.891	.000	.842	.842	.909
Cars	0	3	3	406	0	406	0	162	162	571
% Cars	0	100	100	99.0	0	99.0	0	98.2	98.2	98.8
Trucks	0	0	0	4	0	4	0	3	3	7
% Trucks	0	0	0	1.0	0	1.0	0	1.8	1.8	1.2



# Accurate Counts

978-664-2565

N/S Street : Community Way  
 E/W Street : Cocasset Street  
 City/State : Foxborough, MA  
 Weather : Cloudy

File Name : 68100001  
 Site Code : 68100001  
 Start Date : 7/29/2014  
 Page No : 7

## Groups Printed- Trucks

Start Time	Community Way From North		Cocasset St From East		Cocasset St From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	1	1
07:30 AM	0	0	2	0	0	1	3
07:45 AM	0	0	2	0	0	1	3
Total	0	0	4	0	0	3	7
08:00 AM	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	1	1
08:30 AM	0	0	1	0	0	1	2
08:45 AM	0	0	4	0	0	1	5
Total	0	0	5	0	0	3	8
Grand Total	0	0	9	0	0	6	15
Apprch %	0	0	100	0	0	100	
Total %	0	0	60	0	0	40	



# Accurate Counts

978-664-2565

N/S Street : Community Way  
 E/W Street : Cocasset Street  
 City/State : Foxborough, MA  
 Weather : Cloudy

File Name : 68100001  
 Site Code : 68100001  
 Start Date : 7/29/2014  
 Page No : 10

## Groups Printed- Bikes Peds

Start Time	Community Way From North			Cocasset St From East			Cocasset St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	0	0	2	0	0	0	0	0	0	2	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	0	0	0	0	0	1	1
07:45 AM	0	0	1	2	0	0	0	0	0	1	2	3
Total	0	0	1	5	0	0	0	0	0	1	5	6
08:00 AM	0	0	1	1	0	0	0	0	0	1	1	2
08:15 AM	0	0	0	2	0	0	0	1	0	0	3	3
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	1	0	0	0	0	2	0	1	2	3
Total	0	0	2	3	0	0	0	3	0	2	6	8
Grand Total	0	0	3	8	0	0	0	3	0	3	11	14
Apprch %	0	0		100	0		0	100				
Total %	0	0		72.7	0		0	27.3		21.4	78.6	

# Accurate Counts

978-664-2565

N/S Street : Community Way  
 E/W Street : Cocasset Street  
 City/State : Foxborough, MA  
 Weather : Cloudy

File Name : 68100001  
 Site Code : 68100001  
 Start Date : 7/29/2014  
 Page No : 1

## Groups Printed- Cars - Trucks

Start Time	Community Way From North		Cocasset St From East		Cocasset St From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
04:00 PM	0	3	60	0	0	97	160
04:15 PM	0	0	77	0	3	107	187
04:30 PM	1	0	64	0	1	122	188
04:45 PM	0	0	75	0	1	98	174
Total	1	3	276	0	5	424	709
05:00 PM	0	0	67	0	0	103	170
05:15 PM	0	1	69	0	2	152	224
05:30 PM	0	0	69	0	1	125	195
05:45 PM	1	4	74	0	1	90	170
Total	1	5	279	0	4	470	759
Grand Total	2	8	555	0	9	894	1468
Apprch %	20	80	100	0	1	99	
Total %	0.1	0.5	37.8	0	0.6	60.9	
Cars	2	8	547	0	9	888	1454
% Cars	100	100	98.6	0	100	99.3	99
Trucks	0	0	8	0	0	6	14
% Trucks	0	0	1.4	0	0	0.7	1

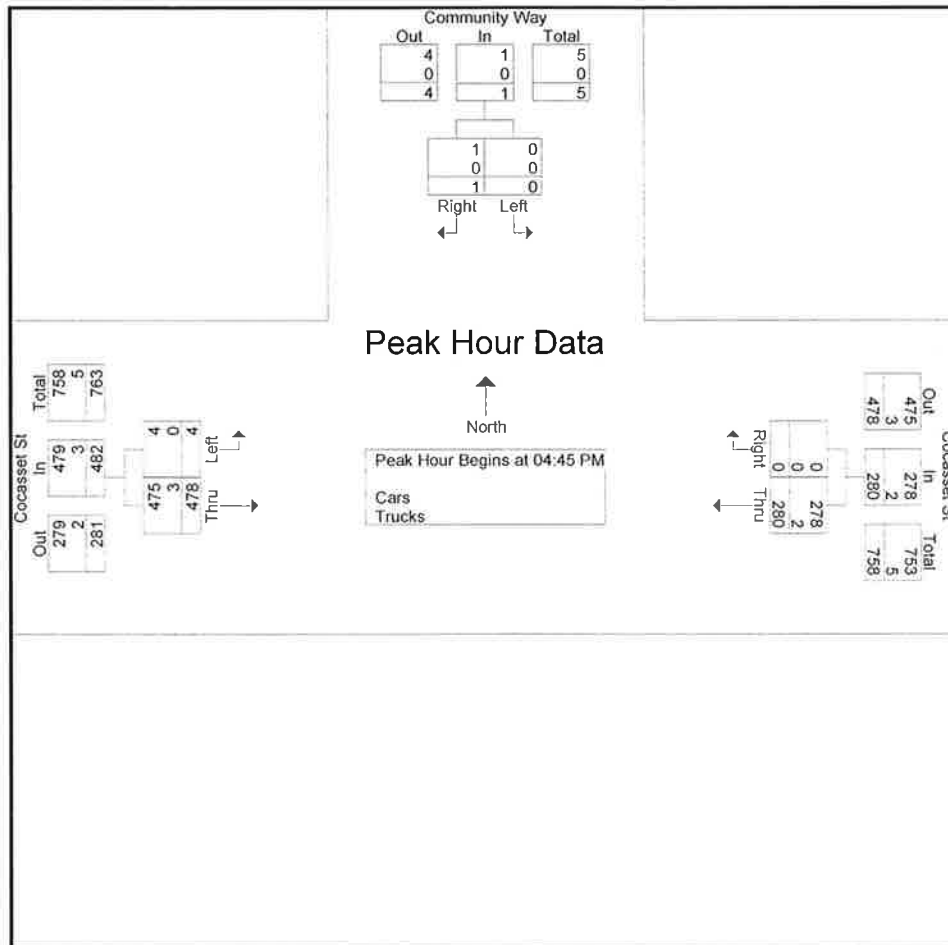
# Accurate Counts

978-664-2565

N/S Street : Community Way  
 E/W Street : Cocasset Street  
 City/State : Foxborough, MA  
 Weather : Cloudy

File Name : 68100001  
 Site Code : 68100001  
 Start Date : 7/29/2014  
 Page No : 2

	Community Way From North			Cocasset St From East			Cocasset St From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	75	0	75	1	98	99	174
05:00 PM	0	0	0	67	0	67	0	103	103	170
05:15 PM	0	1	1	69	0	69	2	152	154	224
05:30 PM	0	0	0	69	0	69	1	125	126	195
Total Volume	0	1	1	280	0	280	4	478	482	763
% App. Total	0	100		100	0		0.8	99.2		
PHF	.000	.250	.250	.933	.000	.933	.500	.786	.782	.852
Cars	0	1	1	278	0	278	4	475	479	758
% Cars	0	100	100	99.3	0	99.3	100	99.4	99.4	99.3
Trucks	0	0	0	2	0	2	0	3	3	5
% Trucks	0	0	0	0.7	0	0.7	0	0.6	0.6	0.7



# Accurate Counts

978-664-2565

N/S Street : Community Way  
 E/W Street : Cocasset Street  
 City/State : Foxborough, MA  
 Weather : Cloudy

File Name : 68100001  
 Site Code : 68100001  
 Start Date : 7/29/2014  
 Page No : 7

## Groups Printed- Trucks

Start Time	Community Way From North		Cocasset St From East		Cocasset St From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
04:00 PM	0	0	2	0	0	2	4
04:15 PM	0	0	1	0	0	0	1
04:30 PM	0	0	2	0	0	1	3
04:45 PM	0	0	0	0	0	2	2
Total	0	0	5	0	0	5	10
05:00 PM	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	2	0	0	0	2
05:45 PM	0	0	1	0	0	0	1
Total	0	0	3	0	0	1	4
Grand Total	0	0	8	0	0	6	14
Apprch %	0	0	100	0	0	100	
Total %	0	0	57.1	0	0	42.9	

# Accurate Counts

978-664-2565

N/S Street : Community Way  
 E/W Street : Cocasset Street  
 City/State : Foxborough, MA  
 Weather : Cloudy

File Name : 68100001  
 Site Code : 68100001  
 Start Date : 7/29/2014  
 Page No : 10

## Groups Printed- Bikes Peds

Start Time	Community Way From North			Cocasset St From East			Cocasset St From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	1	0	0	0	1	0	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	1	0	0	2	2
05:00 PM	0	0	0	2	0	0	0	2	0	0	4	4
05:15 PM	0	0	0	1	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	1	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	4	0	0	0	3	0	0	7	7
Grand Total	0	0	0	5	0	0	0	4	0	0	9	9
Apprch %	0	0		100	0		0	100				
Total %	0	0		55.6	0		0	44.4		0	100	

## SEASONAL ADJUSTMENT DATA

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# MASSACHUSETTS HIGHWAY DEPARTMENT - STATEWIDE TRAFFIC DATA COLLECTION

## 2011 WEEKDAY SEASONAL FACTORS \*

\* Notes: These are weekday factors. The average of the factors for the year will not equal 1, as weekend data are not considered.

FACTOR GROUP	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
GROUP 1 - WEST INTERSTATE	0.98	0.93	0.90	0.89	0.90	0.88	0.91	0.90	0.89	0.89	0.93	0.95
Use group 2 for R5, R6, & R0												
GROUP 2 - RURAL MAJOR COLLECTOR (R-5)	1.12	1.12	1.07	0.99	0.91	0.90	0.86	0.86	0.92	0.93	1.01	1.05
GROUP 3A - RECREATIONAL ** (1-4) See below	1.26	1.25	1.20	1.06	0.96	0.89	0.76	0.76	0.92	0.99	1.08	1.14
GROUP 3B - RECREATIONAL *** (5) See below	1.22	1.26	1.22	1.06	0.96	0.90	0.72	0.74	0.97	1.02	1.14	1.15
GROUP 4 - I-495 INTERSTATE	1.02	1.00	1.00	0.96	0.92	0.89	0.85	0.83	0.93	0.96	1.01	1.03
GROUP 5 - EAST INTERSTATE	1.04	1.00	0.96	0.93	0.92	0.91	0.91	0.89	0.93	0.93	0.96	1.01
Use group 6 for U2, U3, U5, U6, R2, & R3												
GROUP 6 - URBAN ARTERIALS, COLLECTORS & RURAL ARTERIALS (R-2, R-3)	1.03	1.01	0.96	0.92	0.91	0.90	0.92	0.92	0.93	0.92	0.97	0.97
GROUP 7 - I-84 PROXIMITY (STAS. 17,3921)	1.24	1.24	1.15	1.04	0.99	1.00	0.93	0.89	1.05	1.05	1.05	1.12
GROUP 8 - I-295 PROXIMITY (STA. 6590)	1.00	0.99	0.95	0.92	0.94	0.91	0.93	0.92	0.95	0.94	0.97	0.95
GROUP 9 - I-195 PROXIMITY (STA. 7)	1.13	1.05	1.03	0.95	0.89	0.87	0.86	0.79	0.88	0.91	0.99	1.03

RECREATIONAL: (ALL YEARS)

\*\*GROUP 3A:

1. CAPE COD (ALL TOWNS)

2. PLYMOUTH (SOUTH OF RTE. 3A)

7014, 7079, 7080, 7090, 7091, 7092, 7093, 7094, 7095, 7096, 7097, 7106, 7178

3. MARTHA'S VINEYARD

4. NANTUCKET

\*\*\*GROUP 3B:

5. PERMANENTS 2 & 189

1066, 1067, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092,

1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104,

1105, 1106, 1107, 1108, 1113, 1114, 1116, 2196, 2197, 2198

Apply I-84 factor to stations: 3290, 3929

## 2011 AXLE CORRECTION FACTORS

ROAD INVENTORY  
FUNCTIONAL  
CLASSIFICATION

RURAL

1

2

3

0.5, 6

URBAN

1

2

3

5

0.6

I-84

AXLE

CORRECTION

FACTOR

0.95

0.97

0.98

0.98

0.96

0.98

0.98

0.98

0.99

0.90

## ROUND OFF

0 - 999.....10

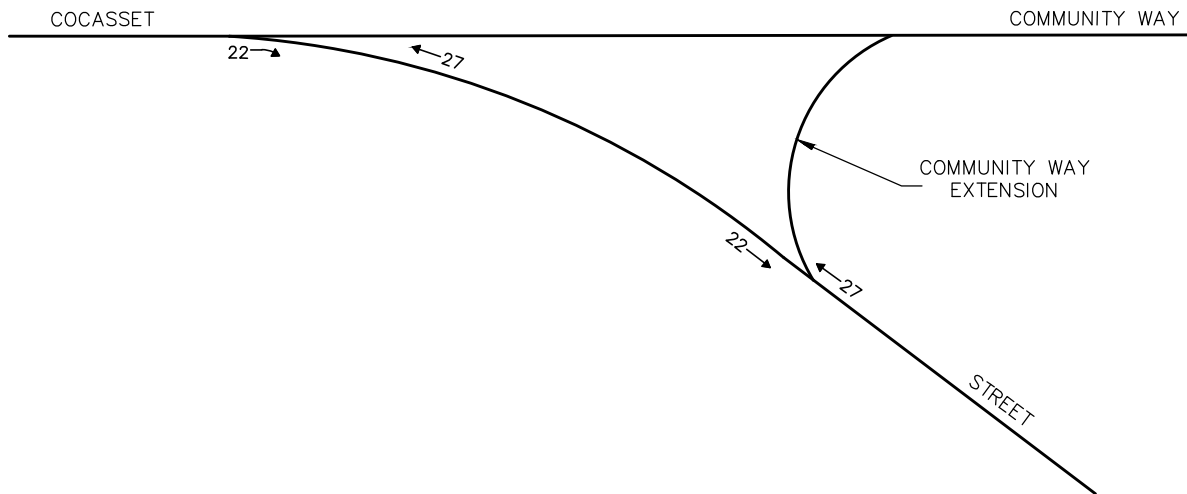
> 1,000.....100



MABELLE M. BURRELL ELEMENTARY SCHOOL TRAFFIC PROJECTIONS

WEEKDAY MORNING PEAK HOUR

**SITE**



WEEKDAY EVENING PEAK HOUR

**SITE**

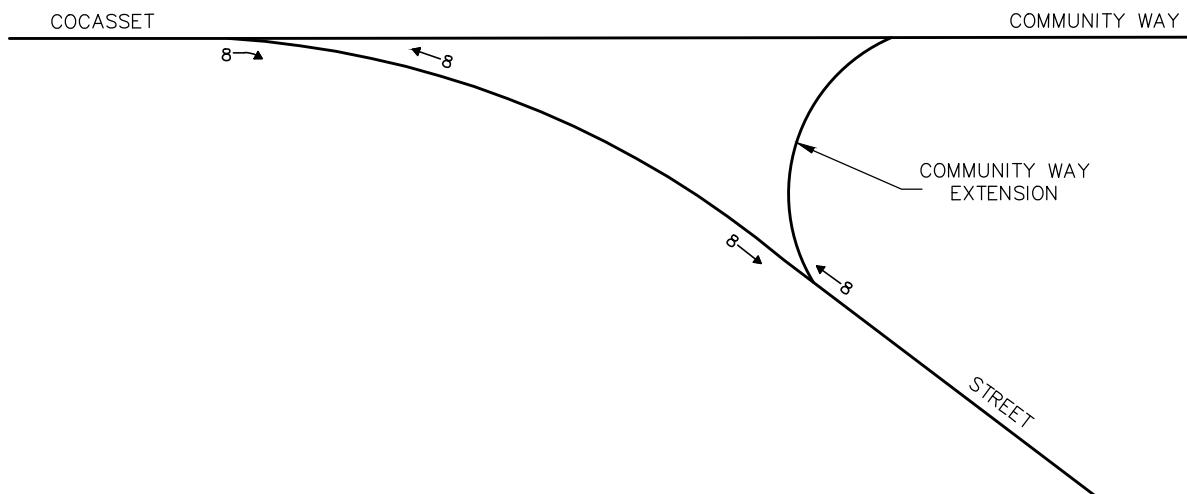


Figure A-1

Mabelle M. Burrell School  
Peak Hour Traffic Volumes

***Institute of Transportation Engineers (ITE)***  
***Trip Generation, 9th Edition***  
**Land Use Code (LUC) 520 - Elementary School**

Average Vehicle Trips Ends vs: Students

Independent Variable (X): 367

**AVERAGE WEEKDAY DAILY**

$$T = 1.29 * (X)$$

$$T = 1.29 * 367$$

$$T = 473.43$$

$$T = 474 \text{ vehicle trips}$$

with 50% ( 237 vph) entering and 50% ( 237 vph) exiting.

**WEEKDAY MORNING PEAK HOUR**

$$T = 0.45 * (X)$$

$$T = 0.45 * 367$$

$$T = 165.15$$

$$T = 165 \text{ vehicle trips}$$

with 55% ( 91 vph) entering and 45% ( 74 vph) exiting.

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$T = 0.15 * (X)$$

$$T = 0.15 * 367$$

$$T = 55.05$$

$$T = 55 \text{ vehicle trips}$$

with 49% ( 27 vph) entering and 51% ( 28 vph) exiting.

## VEHICLE TRAVEL SPEED DATA

---

Accurate Counts  
978-664-2565

Location : Cocasset Street  
 Location : at Community Way  
 City/State: Foxborough, MA

Site Code: 68100001  
 6810SPD1

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
07/29/14	0	0	0	2	4	7	1	1	0	0	0	0	0	0	15	40	46
01:00	0	0	0	0	3	1	0	1	1	0	0	0	0	0	6	50	53
02:00	0	0	0	0	1	3	3	1	0	0	0	0	0	0	8	45	47
03:00	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3	42	44
04:00	0	0	0	1	6	15	11	4	0	0	0	0	0	0	37	44	47
05:00	1	0	1	0	8	57	41	16	0	0	0	0	0	0	124	45	48
06:00	0	0	0	1	47	137	77	13	0	1	0	0	0	0	276	43	46
07:00	0	1	0	8	72	183	98	15	0	0	0	0	0	0	377	42	45
08:00	0	1	2	23	106	189	62	3	0	0	0	0	0	0	386	40	43
09:00	0	0	6	15	53	111	50	15	0	0	0	0	0	0	250	42	46
10:00	1	0	1	6	54	105	32	4	0	0	0	0	0	0	203	41	44
11:00	0	0	0	7	47	81	34	8	0	0	0	0	0	0	178	42	45
12 PM	0	0	0	4	44	97	37	6	2	0	0	0	0	0	190	42	45
13:00	0	0	0	4	45	99	44	6	0	0	0	0	0	0	198	42	45
14:00	0	0	0	3	43	100	54	3	0	0	0	0	0	0	203	42	44
15:00	0	0	2	4	53	138	62	4	0	1	0	0	0	0	264	42	44
16:00	0	0	0	6	44	151	66	9	2	0	0	0	0	0	278	42	45
17:00	3	1	0	6	45	158	63	12	1	0	0	0	0	0	289	42	45
18:00	0	1	1	4	46	143	52	7	1	0	0	0	0	0	254	42	44
19:00	0	0	1	2	47	108	46	8	1	0	0	0	0	0	213	42	45
20:00	0	0	1	4	41	77	19	3	0	0	0	0	0	0	145	40	44
21:00	0	0	0	4	26	39	11	3	0	0	0	0	0	0	83	41	44
22:00	0	0	0	3	11	29	7	0	1	0	0	0	0	0	51	40	44
23:00	0	0	0	6	8	13	3	3	0	0	0	0	0	0	33	41	47
Total	5	4	15	113	855	2042	874	145	9	2	0	0	0	0	4064		
Percent	0.1%	0.1%	0.4%	2.8%	21.0%	50.2%	21.5%	3.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM	05:00	07:00	09:00	08:00	08:00	08:00	07:00	05:00	01:00	06:00					08:00		
Peak															386		
Vol.	1	1	6	23	106	189	98	16	1	1							
PM	17:00	17:00	15:00	16:00	15:00	17:00	16:00	17:00	12:00	15:00					17:00		
Peak															289		
Vol.	3	1	2	6	53	158	66	12	2	1							



# Accurate Counts 978-664-2565

Location : Cocasset Street  
Location : at Community Way  
City/State: Foxborough, MA

Site Code: 68100001  
6810SPD1

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999		Percent	Percent
07/29/14	0	0	0	0	6	22	12	1	1	0	0	0	0	0	42	43	46
01:00	0	0	0	0	2	7	1	0	0	0	0	0	0	0	10	40	42
02:00	0	0	0	0	0	2	3	0	1	0	0	0	0	0	6	49	53
03:00	0	0	0	0	1	2	1	0	0	0	0	0	0	0	4	42	44
04:00	0	0	1	1	3	4	2	0	0	0	0	0	0	0	11	41	43
05:00	0	1	1	0	4	11	5	2	0	0	0	0	0	0	24	43	46
06:00	2	2	1	3	13	42	34	2	0	0	0	0	0	0	99	43	45
07:00	0	1	0	1	16	81	57	5	2	1	0	0	0	0	164	43	46
08:00	0	2	0	1	46	86	40	5	0	0	0	0	0	0	180	42	45
09:00	1	1	0	2	41	93	25	7	1	0	0	0	0	0	171	41	45
10:00	2	4	0	8	34	72	27	2	0	0	0	0	0	0	149	41	44
11:00	1	1	1	2	33	90	33	1	0	0	0	0	0	0	162	41	44
12 PM	1	0	1	5	43	126	43	3	0	0	0	0	0	0	222	41	44
13:00	0	0	1	4	40	114	42	4	0	0	0	0	0	0	205	41	44
14:00	0	0	1	1	52	127	44	1	0	0	0	0	0	0	226	41	44
15:00	2	1	2	7	72	240	53	8	0	0	0	0	0	0	385	40	44
16:00	0	1	1	3	73	253	75	2	0	0	0	0	0	0	407	41	43
17:00	0	2	0	1	97	252	113	10	1	0	0	0	0	0	476	42	44
18:00	1	4	1	1	63	251	85	2	0	0	0	0	0	0	408	41	44
19:00	1	1	0	3	69	180	50	2	0	0	0	0	0	0	306	41	43
20:00	0	1	0	2	51	115	24	0	0	0	0	0	0	0	193	40	42
21:00	0	0	0	5	42	90	28	1	0	0	0	0	0	0	166	41	43
22:00	0	0	0	1	22	51	9	2	2	0	0	0	0	0	87	40	45
23:00	0	0	0	2	11	44	16	5	1	0	0	0	0	0	79	40	47
Total	11	22	10	53	834	2355	822	65	9	1	0	0	0	0	4182		
Percent	0.3%	0.5%	0.2%	1.3%	19.9%	56.3%	19.7%	1.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM															08:00		
Peak															180		
Vol.	2	4	1	8	46	93	57	7	2	1							
PM															17:00		
Peak															476		
Vol.	2	4	2	7	97	253	113	10	2								

# Accurate Counts 978-664-2565

Location : Cocasset Street  
Location : at Community Way  
City/State: Foxborough, MA

Site Code: 68100001  
6810SPD1

Start Time	15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	85th Percent	95th Percent
07/30/14	0	0	0	0	0	0	0	3	6	10	7	17	2	5	0	0	0	0	0	0	0	0	0	0	0	0	35	48
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	43
02:00	0	0	0	0	0	0	0	4	4	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	9	52
03:00	0	0	0	0	0	0	0	2	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	40
04:00	0	0	0	1	0	0	0	1	1	4	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	44
05:00	0	0	0	0	0	0	0	1	1	8	8	7	0	1	0	1	1	0	0	0	0	0	0	0	0	0	18	50
06:00	1	0	0	1	1	0	0	14	14	53	53	34	0	0	0	0	0	0	0	0	0	0	0	1	0	0	104	44
07:00	0	1	1	0	0	4	4	24	24	79	79	49	0	5	0	0	0	0	0	0	0	0	0	0	0	0	162	45
08:00	0	1	1	0	0	4	4	32	32	94	94	47	0	7	0	0	0	0	0	0	0	0	0	0	0	0	185	45
09:00	0	1	1	0	0	7	7	35	35	93	93	33	0	6	0	0	0	0	0	0	0	0	0	0	0	0	175	45
10:00	1	3	3	1	1	4	4	42	42	84	84	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	164	43
11:00	1	1	1	1	1	4	4	38	38	110	110	42	1	1	0	0	0	0	0	0	0	0	0	0	0	0	198	44
12 PM	0	0	0	1	1	10	10	68	68	132	132	44	3	3	0	0	0	0	0	0	0	0	0	0	0	0	258	44
13:00	0	0	0	0	0	5	5	37	37	128	128	41	5	5	0	0	0	0	0	0	0	0	0	0	0	0	216	44
14:00	0	1	1	1	1	4	4	41	41	139	139	47	2	2	0	0	0	0	0	0	0	0	0	0	0	0	235	44
15:00	0	3	3	0	0	2	2	52	52	219	219	66	7	7	2	2	0	0	0	0	0	0	0	0	0	0	351	44
16:00	0	0	0	0	0	0	0	58	58	276	276	93	3	3	0	0	0	0	0	0	0	0	0	0	0	0	430	44
17:00	0	0	0	0	0	2	2	59	59	303	303	84	1	1	1	1	0	0	0	0	0	0	0	0	0	0	450	43
18:00	0	4	4	2	2	7	7	59	59	249	249	68	7	7	0	0	0	0	0	0	0	0	0	0	0	0	396	44
19:00	0	0	0	0	0	4	4	89	89	150	150	56	6	6	0	0	0	0	0	0	0	0	0	0	0	0	305	44
20:00	0	0	0	1	1	4	4	43	43	122	122	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	206	43
21:00	0	0	0	0	0	3	3	46	46	103	103	18	4	4	1	1	0	0	0	0	0	0	0	0	0	0	175	44
22:00	0	0	0	0	0	2	2	32	32	59	59	27	2	2	0	0	0	0	0	1	1	0	0	0	0	0	123	44
23:00	0	0	0	0	0	0	0	25	25	51	51	28	1	1	0	0	0	0	0	0	0	0	0	0	0	0	105	44
Total	3	15	15	9	9	66	66	811	811	2480	2480	870	66	66	1.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4328	44
Percent	0.1%	0.3%	0.3%	0.2%	0.2%	1.5%	1.5%	18.7%	18.7%	57.3%	57.3%	20.1%	2.1%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11:00	0.0%
AM Peak	06:00	10:00	10:00	04:00	04:00	09:00	09:00	10:00	10:00	11:00	11:00	07:00	08:00	08:00	02:00	02:00	02:00	02:00	02:00	02:00	02:00	02:00	02:00	06:00	06:00	0.0%	11:00	0.0%
Vol.	1	3	3	1	1	7	7	42	42	110	110	49	7	7	1	1	1	1	1	1	1	1	1	1	1	1	198	0.0%
PM Peak	18:00	18:00	18:00	18:00	18:00	12:00	12:00	19:00	19:00	17:00	17:00	16:00	16:00	15:00	15:00	15:00	15:00	22:00	22:00	22:00	22:00	22:00	22:00	22:00	22:00	17:00	17:00	0.0%
Vol.	4	4	4	2	2	10	10	89	89	303	303	93	7	7	2	2	2	2	2	2	2	2	2	2	2	2	450	0.0%
Grand Total	14	37	37	19	19	119	119	1645	1645	4835	4835	1692	131	131	1.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8510	0.0%
Percent	0.2%	0.4%	0.4%	0.2%	0.2%	1.4%	1.4%	19.3%	19.3%	56.8%	56.8%	19.9%	1.5%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
15th Percentile :								33 MPH	33 MPH																			
50th Percentile :								37 MPH	37 MPH																			
85th Percentile :								41 MPH	41 MPH																			
95th Percentile :								44 MPH	44 MPH																			

Statistics

10 MPH Pace Speed : 34-43 MPH  
Number in Pace : 6486  
Percent in Pace : 76.2%  
Number of Vehicles > 40 MPH : 1841  
Percent of Vehicles > 40 MPH : 21.6%  
Mean Speed(Average) : 38 MPH



Accurate Counts  
978-664-2565

Location : Cocasset Street  
 Location : at Community Way  
 City/State: Foxborough, MA  
 Westbound, Eastbound

Site Code: 68100001  
 6810SPD1

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
07/29/14	0	0	0	2	10	29	13	2	1	0	0	0	0	0	57	42	46
01:00	0	0	0	0	5	8	1	1	1	0	0	0	0	0	16	42	50
02:00	0	0	0	0	1	5	6	1	1	0	0	0	0	0	14	45	51
03:00	0	0	0	0	2	3	2	0	0	0	0	0	0	0	7	42	44
04:00	0	0	1	2	9	19	13	4	0	0	0	0	0	0	48	43	46
05:00	1	1	2	0	12	68	46	18	0	0	0	0	0	0	148	44	47
06:00	2	2	1	4	60	179	111	15	0	1	0	0	0	0	375	43	45
07:00	0	2	0	9	88	264	155	20	2	1	0	0	0	0	541	43	45
08:00	0	3	2	24	152	275	102	8	0	0	0	0	0	0	566	41	44
09:00	1	1	6	17	94	204	75	22	1	0	0	0	0	0	421	42	45
10:00	3	4	1	14	88	177	59	6	0	0	0	0	0	0	352	41	44
11:00	1	1	1	9	80	171	67	9	1	0	0	0	0	0	340	41	44
12 PM	1	0	1	9	87	223	80	9	2	0	0	0	0	0	412	41	44
13:00	0	0	1	8	85	213	86	10	0	0	0	0	0	0	403	42	44
14:00	0	0	1	4	95	227	98	4	0	0	0	0	0	0	429	41	44
15:00	2	1	4	11	125	378	115	12	0	1	0	0	0	0	649	41	44
16:00	0	1	0	9	117	404	141	11	2	0	0	0	0	0	685	41	44
17:00	3	3	0	7	142	410	176	22	2	0	0	0	0	0	765	42	45
18:00	1	5	2	5	109	394	137	9	0	0	0	0	0	0	662	41	44
19:00	1	1	1	5	116	288	96	10	1	0	0	0	0	0	519	41	44
20:00	0	1	1	6	92	192	43	3	0	0	0	0	0	0	338	40	43
21:00	0	0	0	9	68	129	39	4	0	0	0	0	0	0	249	41	44
22:00	0	0	0	4	33	80	16	2	3	0	0	0	0	0	138	40	44
23:00	0	0	0	8	19	57	19	8	1	0	0	0	0	0	112	42	47
Total	16	26	25	166	1689	4397	1696	210	18	3	0	0	0	0	8246		
Percent	0.2%	0.3%	0.3%	2.0%	20.5%	53.3%	20.6%	2.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AMI																	
Peak	10:00	10:00	09:00	08:00	08:00	08:00	07:00	09:00	07:00	06:00					08:00		
Vol.	3	4	6	24	152	275	155	22	2	1					566		
PM																	
Peak	17:00	18:00	15:00	15:00	17:00	17:00	17:00	17:00	22:00	15:00					17:00		
Vol.	3	5	4	11	142	410	176	22	3	1					765		

# Accurate Counts 978-664-2565

Location : Cocasset Street  
Location : at Community Way  
City/State: Foxborough, MA  
Westbound, Eastbound

Site Code: 68100001  
6810SPD1

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
07/30/14	0	0	0	3	4	17	20	8	0	0	0	0	0	0	52	45	48
01:00	0	0	0	1	11	10	5	2	0	0	0	0	0	0	29	42	46
02:00	0	0	0	0	4	6	2	0	1	1	0	0	0	0	14	45	56
03:00	0	0	0	0	3	5	0	0	0	0	0	0	0	0	10	40	47
04:00	0	0	1	0	12	13	10	1	0	0	0	0	0	0	37	42	45
05:00	1	0	0	5	21	61	56	7	2	0	0	0	0	0	153	43	46
06:00	1	0	1	6	58	180	110	11	0	0	0	0	1	0	368	43	45
07:00	0	1	0	6	69	261	141	11	1	0	0	0	0	0	490	42	45
08:00	0	1	1	20	123	298	131	11	1	0	0	0	0	0	586	42	44
09:00	0	1	0	14	92	232	83	15	0	0	0	0	0	0	437	41	45
10:00	1	3	1	11	92	184	66	7	1	0	0	0	0	0	366	41	44
11:00	1	1	1	6	93	218	68	5	0	0	0	0	0	0	393	41	44
12 PM	0	0	2	13	123	255	93	8	0	0	0	0	0	0	494	41	44
13:00	0	0	0	10	89	246	70	10	0	0	0	0	0	0	425	41	44
14:00	0	1	3	22	92	241	92	6	0	0	0	0	0	0	457	41	44
15:00	0	3	1	15	106	359	123	13	2	0	0	0	0	0	622	41	44
16:00	1	0	0	4	103	438	162	14	1	0	0	0	0	0	723	42	44
17:00	0	0	1	6	111	457	165	5	1	0	0	0	0	0	746	41	44
18:00	0	4	2	8	86	358	139	19	1	0	0	0	0	0	617	42	45
19:00	0	0	0	9	155	236	90	9	1	0	0	0	0	0	500	41	44
20:00	0	0	0	8	8	196	54	2	1	0	0	0	0	0	345	41	43
21:00	0	0	2	7	77	150	27	7	1	0	0	0	0	0	271	40	44
22:00	0	0	0	5	58	96	40	4	0	0	1	0	0	0	204	41	44
23:00	0	0	0	0	31	69	31	3	0	0	0	0	0	0	134	42	44
Total	5	15	17	180	1696	4586	1778	179	14	1	1	0	1	0	8473		
Percent	0.1%	0.2%	0.2%	2.1%	20.0%	54.1%	21.0%	2.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM																	
Peak																	
Vol.	1	3	1	20	123	298	141	15	2	1	22:00		1		586		
PM																	
Peak																	
Vol.	1	4	3	22	155	457	165	19	2	1	17:00		1		746		
Grand																	
Total	21	41	42	346	3385	8983	3474	389	32	4	1	0	1	0	16719		
Percent	0.1%	0.2%	0.3%	2.1%	20.2%	53.7%	20.8%	2.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
15th Percentile : 32 MPH 50th Percentile : 37 MPH 85th Percentile : 41 MPH 95th Percentile : 44 MPH																	

Statistics  
 10 MPH Pace Speed : 34-43 MPH  
 Number in Pace : 12394  
 Percent in Pace : 74.1%  
 Number of Vehicles > 40 MPH : 3901  
 Percent of Vehicles > 40 MPH : 23.3%  
 Mean Speed(Average) : 38 MPH

## MASSDOT CRASH RATE WORKSHEET



## CRASH RATE WORKSHEET

CITY/TOWN : Foxborough COUNT DATE : 2014  
DISTRICT : 5 UNSIGNALIZED : ☒ Yes SIGNALIZED : ☐

**MHD USE ONLY**

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Cocasset Street  
MINOR STREET(S) : Community Way

ST #

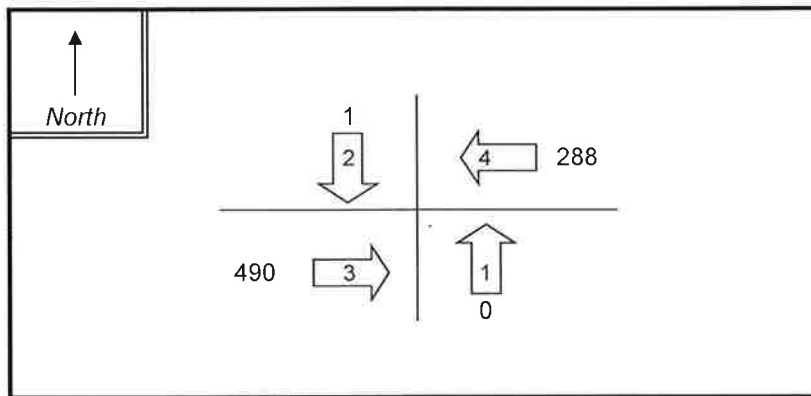
ST #

ST #

ST #

ST #

**INTERSECTION  
DIAGRAM  
(Label Approaches)**



INTERSECTION  
REF #

**Peak Hour Volumes**

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (AM/PM) :	0	1	490	288		779

" K " FACTOR :  APPROACH ADT :  ADT = TOTAL VOL/"K" FACT.

TOTAL # OF  
ACCIDENTS :  # OF  
YEARS :  AVERAGE # OF  
ACCIDENTS ( A ) :

**CRASH RATE CALCULATION :**  RATE =  $\frac{(A * 1,000,000)}{(ADT * 365)}$

Comments : Crash rate is significant if > 0.58 crashes per mev for an unsignalized intersection  
and > 0.77 crashes per mev for a signalized intersection for MassDOT District 5.

## GENERAL BACKGROUND TRAFFIC GROWTH

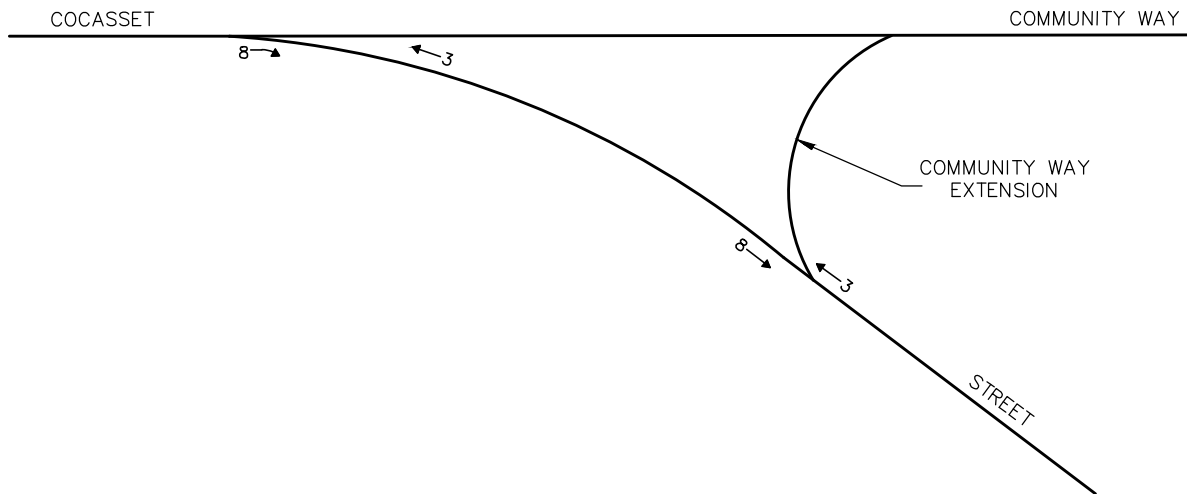
### General Background Traffic Growth

STA.	CITY/TOWN	ROUTE/STREET	LOCATION	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Annual Growth Rate
6671	FOXBOROUGH	RTE. 1	AT WALPOLE T.L.	25100			26700			25900			25100	-0.08%
6733	FOXBOROUGH	RTE. 140	NORTH OF FORBES BLVD.			32000			30900			29600		-1.29%
6229	SHARON	NORWOOD ST.	AT WALPOLE T.L.	12600	12600		13300	13600		12000	12100		10700	-1.35%
6699	SHARON	RTE. 27	BTWN. RTE. 1 & NORWOOD ST.		7500			8000			8300	7700		-0.45%
6700	SHARON	RTE. 27	NORTH OF BAY RD.		17300			17800			13600			-3.85%
														-1.40%

## BACKGROUND DEVELOPMENT BY OTHERS

WEEKDAY MORNING PEAK HOUR

**SITE**



WEEKDAY EVENING PEAK HOUR

**SITE**

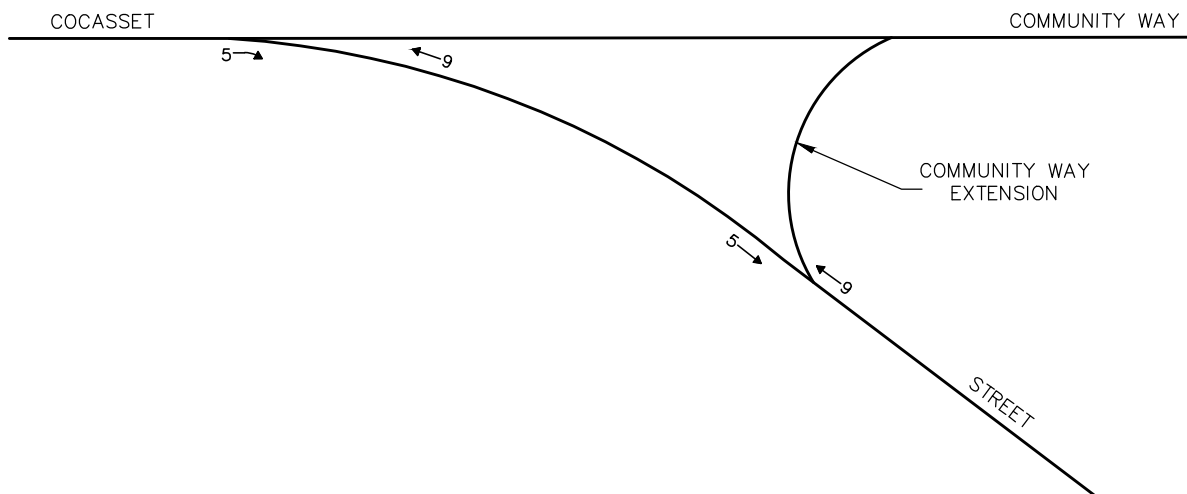


Figure A-2

Background Development  
River Ridge Residential  
Peak Hour Traffic Volumes



## TRIP-GENERATION CALCULATIONS

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**Institute of Transportation Engineers (ITE)**  
***Trip Generation, 9th Edition***  
**Land Use Code (LUC) 210 - Single-Family Detached Housing**

Average Vehicle Trips Ends vs: Dwelling Units  
Independent Variable (X): 20

**AVERAGE WEEKDAY DAILY**

$$\ln T = 0.92 \ln (X) + 2.72$$

$$\ln T = 0.92 \ln 20 + (2.72)$$

$$\ln T = 5.48$$

$$T = 238.91$$

$$T = 240 \text{ vehicle trips}$$

with 50% ( 120 vpd) entering and 50% ( 120 vpd) exiting.

**WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$T = 0.70 * (X) + 9.74$$

$$T = 0.70 * 20 + (9.74)$$

$$T = 23.74$$

$$T = 24 \text{ vehicle trips}$$

with 25% ( 6 vph) entering and 75% ( 18 vph) exiting.

**WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC**

$$\ln T = 0.90 \ln (X) + 0.51$$

$$\ln T = 0.90 \ln 20 + (0.51)$$

$$\ln T = 3.21$$

$$T = 24.68$$

$$T = 25 \text{ vehicle trips}$$

with 63% ( 16 vph) entering and 37% ( 9 vph) exiting.

## CAPACITY ANALYSIS WORKSHEETS

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Cocasset Street at Community Way

Cocasset Street at Community Way Extension










Community Way at Community Way Extension and the Project Driveway

Cocasset Street at Community Way

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2014 Existing Weekday Morning Peak Hour  
1: Cocasset Street & Community Way

Lanes, Volumes, Timings  
7/31/2014

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	187	437	0	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected						
Satd. Flow (prot)	0	1863	1881	0	1589	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1881	0	1589	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		245	216		234	
Travel Time (s)		5.6	4.9		5.3	
Peak Hour Factor	0.84	0.84	0.89	0.89	0.75	0.75
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Adj. Flow (vph)	0	223	491	0	0	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	223	491	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		11	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.0%			ICU Level of Service A		
Analysis Period (min)	15					

2014 Existing Weekday Morning Peak Hour  
1: Cocasset Street & Community Way

HCM 2010 TWSC  
7/31/2014

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Vol, veh/h	0	187	437	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	75	75
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	0	223	491	0	0	4

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	491	0	714
Stage 1	-	-	491
Stage 2	-	-	223
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1083	-	401
Stage 1	-	-	619
Stage 2	-	-	819
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1083	-	401
Mov Cap-2 Maneuver	-	-	401
Stage 1	-	-	619
Stage 2	-	-	819










Approach	EB	WB	SW
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1083	-	-	-	582
HCM Lane V/C Ratio	-	-	-	-	0.007
HCM Control Delay (s)	0	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

2014 Existing Weekday Evening Peak Hour  
1: Cocasset Street & Community Way

Lanes, Volumes, Timings

7/31/2014

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	4	486	288	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected						
Satd. Flow (prot)	0	1881	1881	0	1589	0
Flt Permitted						
Satd. Flow (perm)	0	1881	1881	0	1589	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		245	216		234	
Travel Time (s)		5.6	4.9		5.3	
Peak Hour Factor	0.78	0.78	0.93	0.93	0.25	0.25
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Adj. Flow (vph)	5	623	310	0	0	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	628	310	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		11	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	38.8%			ICU Level of Service A		
Analysis Period (min)	15					

2014 Existing Weekday Evening Peak Hour  
1: Cocasset Street & Community Way

HCM 2010 TWSC

7/31/2014

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Vol, veh/h	4	486	288	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	93	93	25	25
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	5	623	310	0	0	4

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	310	0	943
Stage 1	-	-	310
Stage 2	-	-	633
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1262	-	294
Stage 1	-	-	748
Stage 2	-	-	533
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1262	-	292
Mov Cap-2 Maneuver	-	-	292
Stage 1	-	-	748
Stage 2	-	-	530










Approach	EB	WB	SW
HCM Control Delay, s	0.1	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1262	-	-	-	735
HCM Lane V/C Ratio	0.004	-	-	-	0.005
HCM Control Delay (s)	7.9	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0



2021 No-Build Weekday Morning Peak Hour  
1: Cocasset Street & Community Way

Lanes, Volumes, Timings  
8/4/2014

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	208	472	0	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected						
Satd. Flow (prot)	0	1863	1881	0	1589	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1881	0	1589	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		245	216		234	
Travel Time (s)		5.6	4.9		5.3	
Peak Hour Factor	0.84	0.84	0.89	0.89	0.75	0.75
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Adj. Flow (vph)	0	248	530	0	0	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	248	530	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		11	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.8%			ICU Level of Service A		
Analysis Period (min)	15					

2021 No-Build Weekday Morning Peak Hour  
1: Cocasset Street & Community Way

HCM 2010 TWSC

8/4/2014

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Vol, veh/h	0	208	472	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	75	75
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	0	248	530	0	0	4










Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	530	0	778
Stage 1	-	-	530
Stage 2	-	-	248
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1048	-	368
Stage 1	-	-	594
Stage 2	-	-	798
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1048	-	368
Mov Cap-2 Maneuver	-	-	368
Stage 1	-	-	594
Stage 2	-	-	798

Approach	EB	WB	SW
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1048	-	-	-	553
HCM Lane V/C Ratio	-	-	-	-	0.007
HCM Control Delay (s)	0	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

2021 No-Build Weekday Evening Peak Hour  
1: Cocasset Street & Community Way

Lanes, Volumes, Timings  
8/4/2014

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	4	526	318	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected						
Satd. Flow (prot)	0	1881	1881	0	1589	0
Flt Permitted						
Satd. Flow (perm)	0	1881	1881	0	1589	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		245	216		234	
Travel Time (s)		5.6	4.9		5.3	
Peak Hour Factor	0.78	0.78	0.93	0.93	0.25	0.25
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Adj. Flow (vph)	5	674	342	0	0	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	679	342	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		11	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 40.9% ICU Level of Service A  
Analysis Period (min) 15










2021 No-Build Weekday Evening Peak Hour  
1: Cocasset Street & Community Way

HCM 2010 TWSC  
8/4/2014

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Vol, veh/h	4	526	318	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	93	93	25	25
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	5	674	342	0	0	4
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	342	0	-	0	1027	342
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	685	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1228	-	-	-	262	705
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	504	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1228	-	-	-	260	705
Mov Cap-2 Maneuver	-	-	-	-	260	-
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	500	-
Approach	EB		WB		SW	
HCM Control Delay, s	0.1		0		10.1	
HCM LOS					B	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	
Capacity (veh/h)	1228	-	-	-	705	
HCM Lane V/C Ratio	0.004	-	-	-	0.006	
HCM Control Delay (s)	7.9	0	-	-	10.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0	

2021 Build Weekday Morning Peak Hour  
1: Cocasset Street & Community Way

Lanes, Volumes, Timings  
8/7/2014

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	4	208	472	0	0	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.999				
Satd. Flow (prot)	0	1862	1881	0	1589	0
Flt Permitted		0.999				
Satd. Flow (perm)	0	1862	1881	0	1589	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		245	216		234	
Travel Time (s)		5.6	4.9		5.3	
Peak Hour Factor	0.84	0.84	0.89	0.89	0.75	0.75
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Adj. Flow (vph)	5	248	530	0	0	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	253	530	0	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		11	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.8%			ICU Level of Service A		
Analysis Period (min)	15					

2021 Build Weekday Morning Peak Hour  
1: Cocasset Street & Community Way

HCM 2010 TWSC  
8/7/2014

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Vol, veh/h	4	208	472	0	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	75	75
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	5	248	530	0	0	21










Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	530	0	787
Stage 1	-	-	530
Stage 2	-	-	257
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1048	-	363
Stage 1	-	-	594
Stage 2	-	-	791
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1048	-	361
Mov Cap-2 Maneuver	-	-	361
Stage 1	-	-	594
Stage 2	-	-	786

Approach	EB	WB	SW
HCM Control Delay, s	0.2	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1
Capacity (veh/h)	1048	-	-	-	553
HCM Lane V/C Ratio	0.005	-	-	-	0.039
HCM Control Delay (s)	8.5	0	-	-	11.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

2021 Build Weekday Evening Peak Hour  
1: Cocasset Street & Community Way

Lanes, Volumes, Timings  
8/7/2014

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	15	526	318	0	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frts					0.865	
Flt Protected		0.999				
Satd. Flow (prot)	0	1880	1881	0	1589	0
Flt Permitted		0.999				
Satd. Flow (perm)	0	1880	1881	0	1589	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		245	216		234	
Travel Time (s)		5.6	4.9		5.3	
Peak Hour Factor	0.78	0.78	0.93	0.93	0.25	0.25
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Adj. Flow (vph)	19	674	342	0	0	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	693	342	0	28	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		11	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.8%

ICU Level of Service A

Analysis Period (min) 15

2021 Build Weekday Evening Peak Hour  
1: Cocasset Street & Community Way

HCM 2010 TWSC

8/7/2014

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Vol, veh/h	15	526	318	0	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	93	93	25	25
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	19	674	342	0	0	28
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	342	0	-	0	1055	342
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	713	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1228	-	-	-	252	705
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	489	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1228	-	-	-	246	705
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	477	-
Approach	EB		WB		SW	
HCM Control Delay, s	0.2		0		10.3	
HCM LOS					B	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SWLn1	
Capacity (veh/h)	1228	-	-	-	705	
HCM Lane V/C Ratio	0.016	-	-	-	0.04	
HCM Control Delay (s)	8	0	-	-	10.3	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	












Cocasset Street at Community Way Extension

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2014 Existing Weekday Morning Peak Hour  
3: Cocasset Street & Community Way Ext

Lanes, Volumes, Timings  
8/7/2014

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	187	437	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Friction						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		216	400		82	
Travel Time (s)		4.9	9.1		1.9	
Peak Hour Factor	0.84	0.84	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	223	491	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	223	491	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 26.3%

ICU Level of Service A

Analysis Period (min) 15

2014 Existing Weekday Morning Peak Hour  
3: Cocasset Street & Community Way Ext

HCM 2010 TWSC  
8/7/2014

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	187	437	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	223	491	0	0	0










Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	491	0	714
Stage 1	-	-	491
Stage 2	-	-	223
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1072	-	398
Stage 1	-	-	615
Stage 2	-	-	814
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1072	-	398
Mov Cap-2 Maneuver	-	-	398
Stage 1	-	-	615
Stage 2	-	-	814

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1072	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

2014 Existing Weekday Evening Peak Hour  
3: Cocasset Street & Community Way Ext

Lanes, Volumes, Timings  
8/7/2014

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	486	288	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Friction						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		216	400		82	
Travel Time (s)		4.9	9.1		1.9	
Peak Hour Factor	0.78	0.78	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	623	310	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	623	310	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 28.9% ICU Level of Service A  
Analysis Period (min) 15










2014 Existing Weekday Evening Peak Hour  
3: Cocasset Street & Community Way Ext

HCM 2010 TWSC  
8/7/2014

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	486	288	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	623	310	0	0	0
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	310	0	-	0	933	310
Stage 1	-	-	-	-	310	-
Stage 2	-	-	-	-	623	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1250	-	-	-	295	730
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	535	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1250	-	-	-	295	730
Mov Cap-2 Maneuver	-	-	-	-	295	-
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	535	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1250	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	-	-	0	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	-	

2021 No-Build Weekday Morning Peak Hour  
3: Cocasset Street & Community Way Ext

Lanes, Volumes, Timings  
8/7/2014

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	526	318	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		216	400		82	
Travel Time (s)		4.9	9.1		1.9	
Peak Hour Factor	0.84	0.84	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	626	357	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	626	357	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.0%			ICU Level of Service A		
Analysis Period (min)	15					










2021 No-Build Weekday Morning Peak Hour  
3: Cocasset Street & Community Way Ext

HCM 2010 TWSC  
8/7/2014

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	526	318	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	626	357	0	0	0
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	357	0	-	0	983	357
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	626	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1202	-	-	-	276	687
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	533	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1202	-	-	-	276	687
Mov Cap-2 Maneuver	-	-	-	-	276	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	533	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1202	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	-	-	0	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	-	

2021 Build Weekday Morning Peak Hour  
3: Cocasset Street & Community Way Ext

Lanes, Volumes, Timings  
8/7/2014

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	208	472	2	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1861	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1861	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		216	400		82	
Travel Time (s)		4.9	9.1		1.9	
Peak Hour Factor	0.84	0.84	0.89	0.89	0.92	0.92
Adj. Flow (vph)	0	248	530	2	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	248	532	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 35.0% ICU Level of Service A  
Analysis Period (min) 15












2021 Build Weekday Morning Peak Hour  
3: Cocasset Street & Community Way Ext

HCM 2010 TWSC  
8/7/2014

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	208	472	2	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	89	89	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	248	530	2	5	0
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	533	0	-	0	779	531
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	248	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1035	-	-	-	364	548
Stage 1	-	-	-	-	590	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1035	-	-	-	364	548
Mov Cap-2 Maneuver	-	-	-	-	364	-
Stage 1	-	-	-	-	590	-
Stage 2	-	-	-	-	793	-
Approach	EB		WB		SB	
HCM Control Delay, s	0		0		15	
HCM LOS					C	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1035	-	-	-	364	
HCM Lane V/C Ratio	-	-	-	-	0.015	
HCM Control Delay (s)	0	-	-	-	15	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0	

2021 Build Weekday Evening Peak Hour  
3: Cocasset Street & Community Way Ext

Lanes, Volumes, Timings  
8/7/2014

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	526	318	5	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1859	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1859	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		216	400		82	
Travel Time (s)		4.9	9.1		1.9	
Peak Hour Factor	0.78	0.78	0.93	0.93	0.92	0.92
Adj. Flow (vph)	0	674	342	5	3	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	674	347	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	37.7%			ICU Level of Service A		
Analysis Period (min)	15					

2021 Build Weekday Evening Peak Hour  
3: Cocasset Street & Community Way Ext

HCM 2010 TWSC

8/7/2014

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	526	318	5	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	674	342	5	3	0
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	347	0	-	0	1019	345
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	674	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1212	-	-	-	263	698
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	506	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1212	-	-	-	263	698
Mov Cap-2 Maneuver	-	-	-	-	263	-
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	506	-
Approach	EB	WB	SB			
HCM Control Delay, s	0	0	18.9			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1212	-	-	-	263	
HCM Lane V/C Ratio	-	-	-	-	0.012	
HCM Control Delay (s)	0	-	-	-	18.9	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0	

Community Way at Community Way Extension and the Project Driveway

2014 Existing Weekday Morning Peak Hour  
2: Community Way Ext & Community Way

Lanes, Volumes, Timings  
8/7/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↗	
Volume (vph)	0	0	0	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr t						
Fl t Protected						
Satd. Flow (prot)	1801	0	0	1801	1863	0
Fl t Permitted						
Satd. Flow (perm)	1801	0	0	1801	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	234			482	82	
Travel Time (s)	5.3			11.0	1.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	3	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	3	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	6.7%			ICU Level of Service A		
Analysis Period (min)	15					

2014 Existing Weekday Morning Peak Hour  
2: Community Way Ext & Community Way

HCM 2010 TWSC  
8/7/2014

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	0	3	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	3	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	0	0	3	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	3	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	-	-	1019	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1020	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	1019	-
Mov Cap-2 Maneuver	-	-	-	-	1019	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1020	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

2014 Existing Weekday Evening Peak Hour  
2: Community Way Ext & Community Way

Lanes, Volumes, Timings  
8/7/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↗↘	
Volume (vph)	4	0	0	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>						
Fl <sub>t</sub> Protected						
Satd. Flow (prot)	1801	0	0	1801	1863	0
Fl <sub>t</sub> Permitted						
Satd. Flow (perm)	1801	0	0	1801	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	234			482	82	
Travel Time (s)	5.3			11.0	1.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	0	0	1	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	0	1	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	6.7%			ICU Level of Service A		
Analysis Period (min)	15					

2014 Existing Weekday Evening Peak Hour  
2: Community Way Ext & Community Way

HCM 2010 TWSC  
8/7/2014

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	4	0	0	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	0	1	0	0

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	4	0
Stage 1	-	-	4	-
Stage 2	-	-	1	-
Critical Hdwy	-	4.12	6.42	6.22
Critical Hdwy Stg 1	-	-	5.42	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	-	2.218	3.518	3.318
Pot Cap-1 Maneuver	-	1618	1017	1080
Stage 1	-	-	1019	-
Stage 2	-	-	1022	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	1618	1017	1080
Mov Cap-2 Maneuver	-	-	1017	-
Stage 1	-	-	1019	-
Stage 2	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1618	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



2021 No-Build Weekday Morning Peak Hour  
2: Community Way Ext & Community Way

Lanes, Volumes, Timings  
8/7/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↘↙	
Volume (vph)	0	0	0	3	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>						
Fl <sub>t</sub> Protected						
Satd. Flow (prot)	1801	0	0	1801	1863	0
Fl <sub>t</sub> Permitted						
Satd. Flow (perm)	1801	0	0	1801	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	234			482	82	
Travel Time (s)	5.3			11.0	1.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	3	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	3	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	6.7%			ICU Level of Service A		
Analysis Period (min)	15					










2021 No-Build Weekday Morning Peak Hour  
2: Community Way Ext & Community Way

HCM 2010 TWSC  
8/7/2014

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	0	3	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	3	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	0	0	3	0
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	3	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	-	-	1019	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1020	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	1019	-
Mov Cap-2 Maneuver	-	-	-	-	1019	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	1020	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	-	-	-	-	-	

2021 No-Build Weekday Evening Peak Hour  
2: Community Way Ext & Community Way

Lanes, Volumes, Timings  
8/7/2014

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	4	0	0	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Friction Factor						
Flt Protected						
Satd. Flow (prot)	1801	0	0	1801	1863	0
Flt Permitted						
Satd. Flow (perm)	1801	0	0	1801	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	234			482	82	
Travel Time (s)	5.3			11.0	1.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	0	0	1	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	0	1	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 6.7%

ICU Level of Service A

Analysis Period (min) 15

2021 No-Build Weekday Evening Peak Hour  
2: Community Way Ext & Community Way

HCM 2010 TWSC  
8/7/2014

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	4	0	0	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	0	1	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	4	5
Stage 1	-	-	4
Stage 2	-	-	1
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1618	1017
Stage 1	-	-	1019
Stage 2	-	-	1022
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1618	1017
Mov Cap-2 Maneuver	-	-	1017
Stage 1	-	-	1019
Stage 2	-	-	1022

















Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1618	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

2021 Build Weekday Morning Peak Hour  
 2: Community Way Ext/Project Driveway & Community Way

Lanes, Volumes, Timings

8/7/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	1	0	0	3	0	0	2	0	0	5	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Friction											0.901	
Flt Protected		0.962										
Satd. Flow (prot)	0	1732	0	0	1801	0	0	1863	0	0	1678	0
Flt Permitted		0.962										
Satd. Flow (perm)	0	1732	0	0	1801	0	0	1863	0	0	1678	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		234			482			82			197	
Travel Time (s)		5.3			11.0			1.9			4.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	1	0	0	3	0	0	2	0	0	5	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	3	0	0	2	0	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 13.5%

ICU Level of Service A

Analysis Period (min) 15

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Intersection									
Int Delay, s/veh	7.2								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	4	1	0	0	3	0	0	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	0	0	3	0	0	2	0
Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	3	0	0	1	0	0	23	13	1
Stage 1	-	-	-	-	-	-	10	10	-
Stage 2	-	-	-	-	-	-	13	3	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	1622	-	-	989	881	1084
Stage 1	-	-	-	-	-	-	1011	887	-
Stage 2	-	-	-	-	-	-	1007	893	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	1622	-	-	970	879	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-	970	879	-
Stage 1	-	-	-	-	-	-	1009	885	-
Stage 2	-	-	-	-	-	-	988	893	-
Approach	EB			WB			NB		
HCM Control Delay, s	5.8			0			9.1		
HCM LOS							A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	
Capacity (veh/h)	879	1619	-	-	1622	-	-	1016	
HCM Lane V/C Ratio	0.002	0.003	-	-	-	-	-	0.019	
HCM Control Delay (s)	9.1	7.2	0	-	0	-	-	8.6	
HCM Lane LOS	A	A	A	-	A	-	-	A	
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1	

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Intersection			
Int Delay, s/veh			
Movement	SBL	SBT	SBR
Vol, veh/h	0	5	13
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	0	5	14
Major/Minor	Minor2		
Conflicting Flow All	14	13	3
Stage 1	3	3	-
Stage 2	11	10	-
Critical Hdwy	7.12	6.52	6.22
Critical Hdwy Stg 1	6.12	5.52	-
Critical Hdwy Stg 2	6.12	5.52	-
Follow-up Hdwy	3.518	4.018	3.318
Pot Cap-1 Maneuver	1002	881	1081
Stage 1	1020	893	-
Stage 2	1010	887	-
Platoon blocked, %			
Mov Cap-1 Maneuver	999	879	1081
Mov Cap-2 Maneuver	999	879	-
Stage 1	1018	893	-
Stage 2	1006	885	-
Approach	SB		
HCM Control Delay, s	8.6		
HCM LOS	A		
Minor Lane/Major Mvmt			

## 2021 Build Weekday Evening Peak Hour

## Lanes, Volumes, Timings

## 2: Community Way Ext/Project Driveway &amp; Community Way

8/7/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	4	0	0	1	0	0	5	0	0	3	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>											0.905	
Flt Protected		0.964										
Satd. Flow (prot)	0	1736	0	0	1801	0	0	1863	0	0	1686	0
Flt Permitted		0.964										
Satd. Flow (perm)	0	1736	0	0	1801	0	0	1863	0	0	1686	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		234			482			82			159	
Travel Time (s)		5.3			11.0			1.9			3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	4	0	0	1	0	0	5	0	0	3	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	1	0	0	5	0	0	10	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.5%											
Analysis Period (min)	15											
ICU Level of Service A												



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Intersection									
Int Delay, s/veh	6.8								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	11	4	0	0	1	0	0	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	4	0	0	1	0	0	5	0
Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1	0	0	4	0	0	34	29	4
Stage 1	-	-	-	-	-	-	28	28	-
Stage 2	-	-	-	-	-	-	6	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1622	-	-	1618	-	-	973	864	1080
Stage 1	-	-	-	-	-	-	989	872	-
Stage 2	-	-	-	-	-	-	1016	895	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1622	-	-	1618	-	-	959	858	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	959	858	-
Stage 1	-	-	-	-	-	-	982	866	-
Stage 2	-	-	-	-	-	-	1006	895	-
Approach	EB			WB			NB		
HCM Control Delay, s	5.3			0			9.2		
HCM LOS							A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	
Capacity (veh/h)	858	1622	-	-	1618	-	-	997	
HCM Lane V/C Ratio	0.006	0.007	-	-	-	-	-	0.01	
HCM Control Delay (s)	9.2	7.2	0	-	0	-	-	8.6	
HCM Lane LOS	A	A	A	-	A	-	-	A	
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0	

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Intersection			
Int Delay, s/veh			
Movement	SBL	SBT	SBR
Vol, veh/h	0	3	6
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	92	92	92
Heavy Vehicles, %	2	2	2
Mvmt Flow	0	3	7
Major/Minor	Minor2		
Conflicting Flow All	32	29	1
Stage 1	1	1	-
Stage 2	31	28	-
Critical Hdwy	7.12	6.52	6.22
Critical Hdwy Stg 1	6.12	5.52	-
Critical Hdwy Stg 2	6.12	5.52	-
Follow-up Hdwy	3.518	4.018	3.318
Pot Cap-1 Maneuver	976	864	1084
Stage 1	1022	895	-
Stage 2	986	872	-
Platoon blocked, %			
Mov Cap-1 Maneuver	966	858	1084
Mov Cap-2 Maneuver	966	858	-
Stage 1	1015	895	-
Stage 2	973	866	-
Approach	SB		
HCM Control Delay, s	8.6		
HCM LOS	A		
Minor Lane/Major Mvmt			